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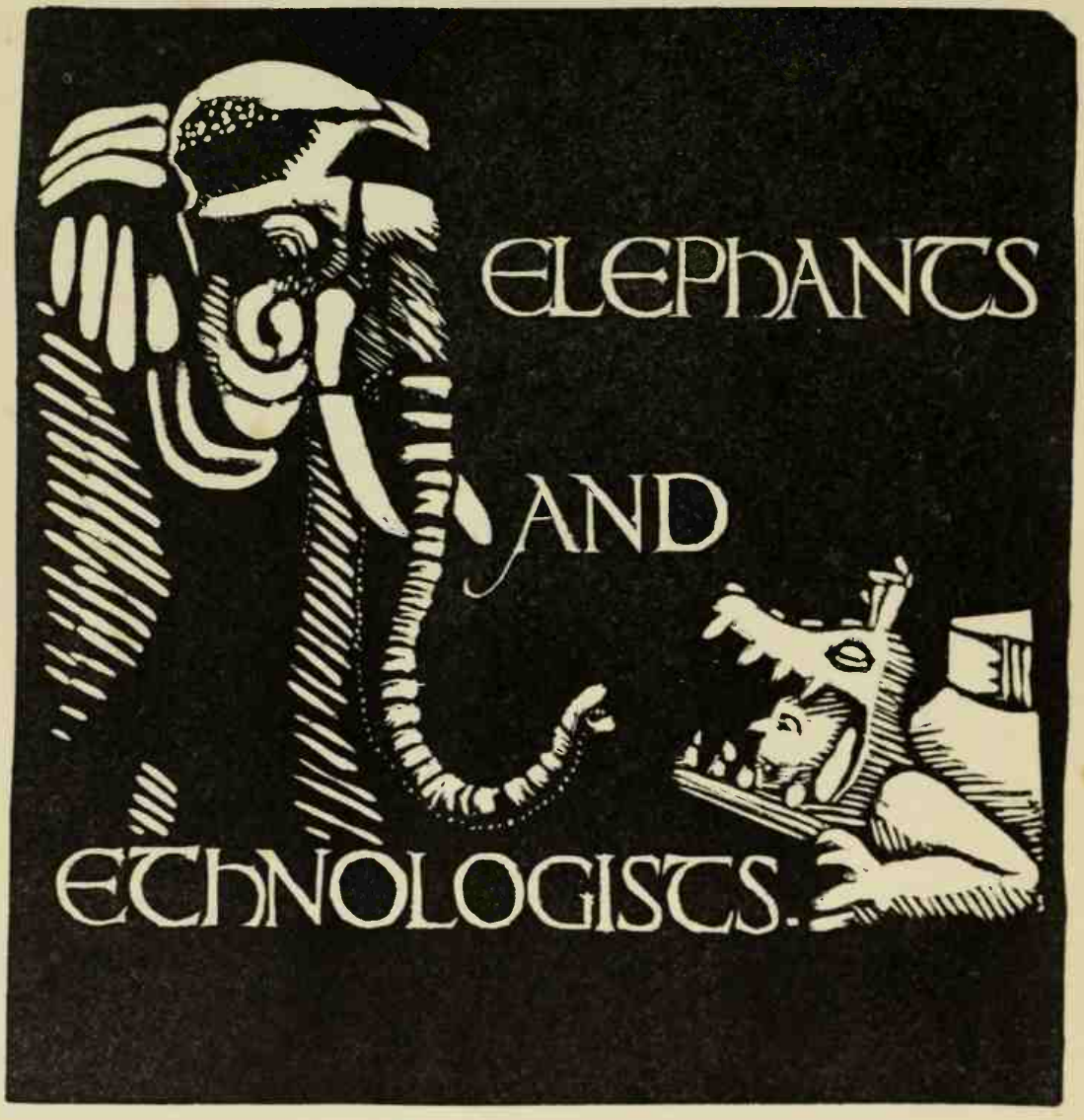
ELEPHANTS
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Elephants and Ethnologists

By
G. ELLIOT SMITH

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A. HORACE GERRARD AND K. LEIGH-PEMBERTON

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CONTENTS

CHAPTER		PAGE
	Preface	1
	Bibliographical Note	11
I	The Nature of the Problem	20
II	Other Representations of the Elephant	43
III	The Makara	66
IV	The Spiral Ornament	83
V	The Date of the Diffusion of Culture to America	99
VI	The Significance of Indo-China	117
	Index	133

LIST OF ILLUSTRATIONS

PLATE		PAGE
	ELEPHANTS AND ETHNOLOGISTS	*Front*
1	INDIAN MAKARA	19
2	THE TOP OF STELA B AT COPAN	20
3	STATUE OF AN ELEPHANT AT DELHI FORT	20
4	THE COPAN STELA B	23
5	STELA B, LEFT ELEVATION	24
6	STELA B, SEEN OBLIQUELY FROM THE RIGHT	24
7	STELA B, RIGHT ELEVATION	26
8	MEDIÆVAL SCULPTURE FROM MYSORE	28
9	DIAGRAMMATIC REPRESENTATION OF PLATE 4	28
10	DIAGRAMS OF THE EDGES OF STELA B	30
11	AN INDONESIAN MAKARA	32
12	SCENE FROM THE AZTEC CODEX BORGIA	37
13	A CHINESE FIGURE	44
14	DESIGN FROM GREEK COIN	44
15	THE AMERICAN ELEPHANT-HEADED GOD OF RAIN	46
16	THE ELEPHANT-HEADED GOD CHAC OF YUCATAN	48
17	FIGURES OF THE BABYLONIAN ANTELOPE-FISH AND INDIAN MAKARA	56
18	THE ELEPHANT-MAKARA	56
19	A JAVANESE MAKARA-FORM OF THE KIRTIMUKHA	60

PLATE		PAGE
20	THE AZTEC RAIN GOD	63
21	CAMBODIAN MAKARA	64
22	HEAD OF SO-CALLED "SERPENT"	64
23	SERIES OF INDIAN AND JAVANESE MAKARAS	66
24	MAKARA FROM MYSORE	66
25	TWO EARLY INDIAN MAKARAS	68
26	FIGURE FROM BRITISH HONDURAS	68
27	MAYA "CROCODILE" POT	70
28	VARUNA SEATED ON THE MAKARA	75
29	FIGURE FROM A STONE LINTEL AT MENCHE	76
30	EARLY EXAMPLE OF AN INDIAN ELEPHANT-MAKARA	76
31	THREE FIGURES SELECTED BY DR. SPINDEN	82
32	SCULPTURES FROM STELA D, COPAN	82
33	SCOTTISH ELEPHANT DESIGNS	86
24	ELEPHANTS AND MANDRAKE	86
35	EARLY INDIAN FIGURE OF A MAKARA	90
36	TWO EARLY INDIAN MAKARAS	90
37	SERIES OF GREEK COINS	92
38	SERIES OF GREEK COINS	92
39	AN AMERICAN (MAYA) GOD ON A COUCH	94
40	WINGED DISCS	96
41	DESIGN FROM A COPAN ALTAR	96
42	IMAGE OF KIRTIMUKHA	98
43	THE KIRTIMUKHA	98
44	THE AMERICAN "SERPENT-BIRD"	99

PLATE		PAGE
45	THE AMERICAN (MAYA) "SERPENT-BIRD" -	99
46	A CAMBODIAN "CHAO" OR GANESA - -	118
47	PORTION OF A CAMBODIAN BAS-RELIEF - -	118
48	CAMBODIAN DESIGN REPRESENTING INDRA -	120
49	FRAGMENT OF A FUNERARY URN - - -	120
50	A MAYA REPRESENTATION OF A MAKARA OF INDONESIAN TYPE - - - -	128
51	DESIGN FROM THE EAST FACE OF STELA D AT QUIRIGUA - - - - - -	128
52	DESIGN FROM MONOLITH B AT QUIRIGUA (in text)	131

ILLUSTRATIONS IN THE TEXT

	PAGE
CHART SHOWING DIFFUSION OF CULTURE - -	3
DESIGN UPON THE ANCIENT AMERICAN STELA B AT COPAN - - - - - -	4
TRACING OF MAUDSLAY'S DRAWINGS, FIGS. A, B, C AND D - - - - - -	9
TAIL PIECE - - - - - - -	19
TAIL PIECE - - - - - - -	42
TAIL PIECE - - - - - - -	65
TAIL PIECE - - - - - - -	98
TAIL PIECE - - - - - - -	116
TAIL PIECES - - - - - - -	129

PREFACE

EVER since man first learned to draw pictures or to model figures, the elephant and other proboscidea have always exerted a strange fascination upon the artist in his choice of subjects for representation. The earliest known members of the species *sapiens*, to which we ourselves belong, left their works of art in the French caves and other palæolithic settlements, ranging from Spain to Moravia, and amongst these are many pictures and models of elephants and mammoths. In Ancient Egypt and Babylonia the elephant was occasionally depicted; and in later times in India, Indo-China, and Indonesia. But when the diffusion of culture introduced the beliefs and practices of India to distant lands, where the elephant was not known, pictures of the uncouth mammal acquired a popularity almost as great as in its own home.

The scope and purpose of this book can best be defined if I explain the circumstances which prompted me to write it.

Investigations carried on during the years 1910 to 1915 convinced me that the Pre-Columbian civilisation of America was not wholly due to independent invention on the part of the aboriginal population of Mexico, Central America and Peru, but was inspired mainly by

immigrants who at various times during the first twelve centuries of the Christian era, and possibly two or three centuries earlier still, crossed the Pacific Ocean and planted in Honduras (see Copan on the map) and elsewhere the germs of Old World culture (with traits suggestive of Cambodia, C on the map), which took root and, with the aid of the local population, developed in a manner that is distinctive of the New World.

In the second edition of my little book, *The Ancient Egyptians* (1923), I have given an account of the train of events that led me to adopt this view and of the part taken by the late Dr. W. H. R. Rivers and Mr. W. J. Perry in developing and formulating the new teaching. Dr. Rivers has given his own account of this new movement in ethnology (*Psychology and Politics*, 1922, pp. 109-137); and in his two books, *The Megalithic Culture of Indonesia* (1918) and *The Children of the Sun* (1923), Mr. Perry has told the story from his point of view. In 1915 all three of us had become convinced that there was no longer any room for doubt as to the reality of the diffusion across the Pacific of the essential elements out of which the Pre-Columbian civilisation of America had been built up. But we were met by a solid phalanx of opposition to this interpretation. The favourite argument was that the field of enquiry was so wide and the bulk of the evidence so formidable as to render useful discussion impossible—a very strange excuse to be put forward in a scientific age that had just passed through the experience of arguing Charles Darwin's claims for half a century!

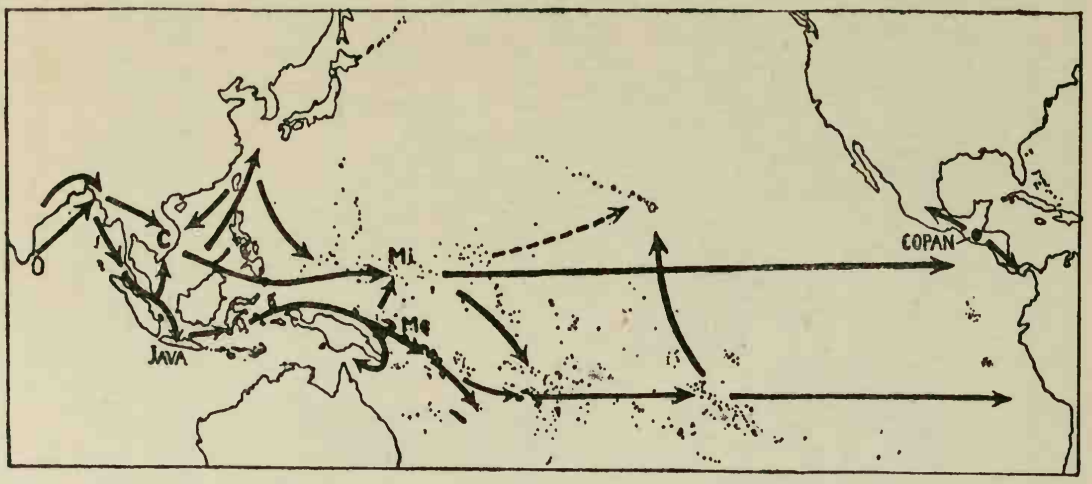
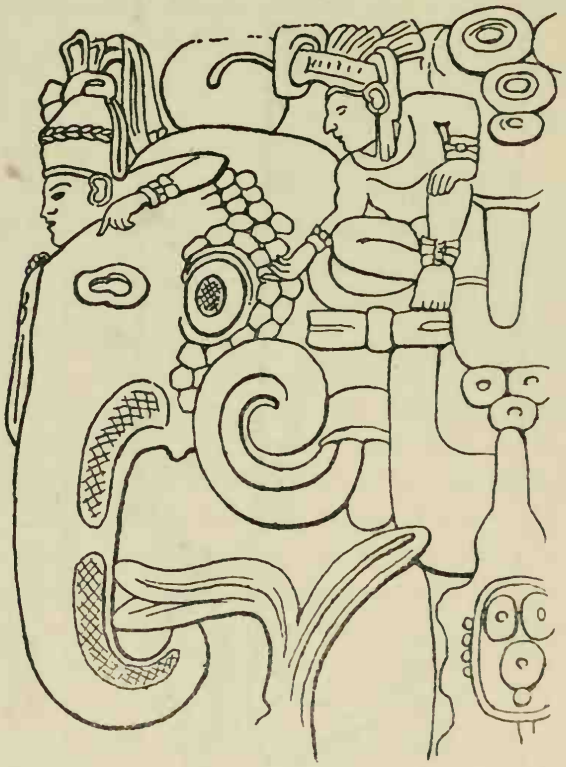


Chart to indicate the lines of diffusion of culture, more especially the route taken by the main stream from Cambodia (C) to Micronesia (Mi) and Central America (Copan). The Melanesian element in American culture came in partly by the connexion of Melanesia (Me) with Micronesia and partly by the Southern (Polynesian) route. The influence of India upon Cambodia, both by sea and land routes, is indicated by arrows, and the influence of China upon Cambodia and Micronesia is also suggested.

But when this plea was so fully exploited at the Manchester meeting of the British Association in 1915,



The design upon the ancient American stela B at Copan, the discussion of which is the subject of this book. The claim put forward is that it is the picture of an Indian elephant with its turbaned *mahout*, modelled by a sculptor who had never seen the animal, but was copying an imported design. The drawing is copied from Maudslay, who regards the animal as a tapir.

it seemed to be desirable to focus the discussion on one sharply defined issue, and to select a topic for argument

which would eliminate all the stereotyped forms of criticism. Hence I wrote a letter to *Nature*, which was published on November 25th, 1915 (p. 340), calling attention to the fact that upon a stone monument at Copan, in Honduras, a sculptor, working several centuries before Christopher Columbus set out to discover the New World, had carved the picture (page 4) of an unmistakable Indian elephant ridden by an equally characteristic turbaned *mahout*.

This claim raised a clear-cut issue, the correct solution of which involved far-reaching implications. Moreover it excluded the possibility of my critics using their customary arguments. For example, the ingenuity of even the most enthusiastic believer in the theory of "the similarity of the working of the human mind" would not avail to persuade any reasonable man that the profile of an Indian elephant and a turbaned rider could have been "independently evolved" in America by people who had never seen an elephant. Moreover, the elimination of the Egyptian factor from this specific instance of the theory of cultural diffusion, namely, by concentrating attention upon the influence of Indian culture, removed a disturbing element that had come to be so obtrusive as to hamper serious argument.

But the upholders of "the ethnological Monroe Doctrine" that no outside influence could be admitted as a factor in America's cultural development are keenly alive to the fact that the recognition of any Asiatic designs would be fatal to their belief in indigenous origin. Hence the Copan elephant and its Indian inspiration

have be to interpreted in some other way. But while they all recognise that the compromising elephant must be got rid of, they are unable to agree as to how the deed is to be done, or which is the most plausible excuse to adopt in justification of their refusal to admit its proboscidean identity. At one time the favourite device was to call the creature a tapir, and ignore the turbaned rider and his elephant goad. Then certain German ethnologists called it a tortoise, to which some of the American scholars replied with the claim that it was a parrot, or, to be quite exact, the Blue Macaw of Central America! Others again, who, as zoologists, felt that they could not deny the proboscidean nature of the pictures of the elephant represented in certain Maya manuscripts, put forward the claim that the creature could be none other than the extinct *Elephas columbi*. Quite apart from the chronological difficulty of assuming that people living perhaps in the tenth century of the Christian era were either contemporaries of a Pleistocene elephant (or were such expert palæontologists as to be able correctly to restore its picture from a fossil skull), this speculation leaves several facts unexplained. The scenes depicted in the manuscripts are derived from the mythology of India. The contour of the elephant's head in the Copan sculpture (and presumably the cruder drawings in the codices were intended to represent the same animal) is not that of the extinct *Elephas columbi*, but of the living Indian elephant; it is being ridden by a man wearing an Indian turban; it is embellished with certain utterly irrelevant

designs which are found also on ancient Indian representations of conventionalised elephants.

The profile depicted in the figure on p. 4, which is a tracing from Mr. Maudslay's drawing, is clearly that of an elephant. The shape of the head, the form of the trunk, the positions of the lower lip, the tusk and the under surface of the trunk, and the distribution of the area of the auditory pinna, reveal its identity as an Indian elephant quite as definitely as the Indian turban of the rider and his elephant goad. The reality of this identification is put beyond even the possibility of doubt by the incongruous and irrelevant addition of the spiral ornament, which is not justified by any natural feature of the elephant, but is an arbitrary convention found in certain ancient representations of the elephant and mythical elephant-fish (makara) in India and Eastern Asia.

That the Copan sculpture was the work of someone unacquainted with the features of a living elephant who could never have seen one is shown by a series of peculiar errors in his modelling. He has mistaken its eye for the nostril and its ear for the eye, although these two features of the elephant had apparently been accurately displayed in the model which he was copying. The external ear (pinna) is also accurate as to size and shape, but the artist clearly did not know what it was when he transformed it into a geometrical pattern, the closest analogy for which is seen in some of the Asiatic mythical "crocodiles" or makaras (for example, Plate 1). The outline of the rider, crouching forward on the elephant's

head, has been either mistaken for the elephant's profile or not distinguished from it.

But this does not affect the conclusion that the sculptor was copying the representation of an elephant and had no adequate appreciation of the nature of the creature he was portraying.

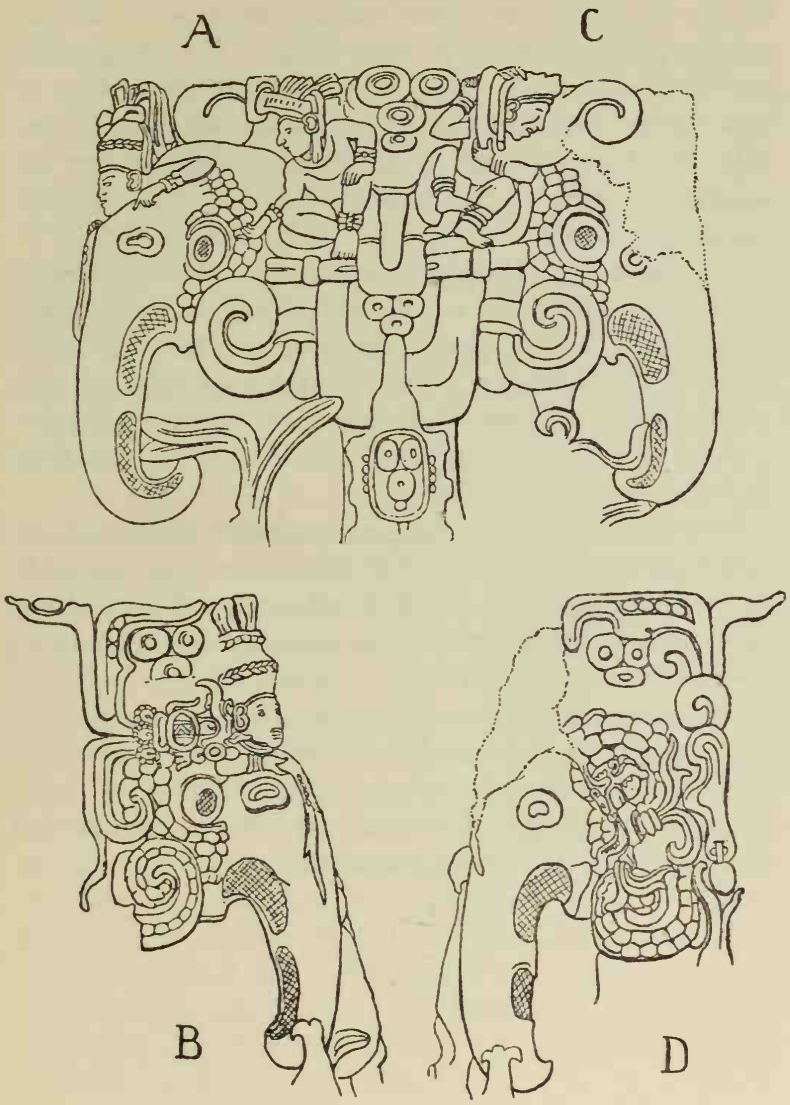
FIGURES ON PAGE 9.

Tracing of Maudslay's drawings of the top of Stela B at Copan to show the four profiles of the two sculptured elephants' heads. B and D (from the back of the monument) are drawn on a slightly larger scale than the front (A and C respectively) of the same heads and are viewed somewhat obliquely.

The drawings are copied from Maudslay's atlas.

The ethnologists who claim that the creature represented is not an elephant but a macaw rely entirely on the most obscure, most crudely modelled and most damaged (D) of the four profiles to explain their argument and ignore A, B and C.

The ethnologist who claims that the Copan sculpture reproduced in the plates represents parrots and not elephants acts as though he were not altogether satisfied with the plausibility of his claim. For of the four profiles of elephants (which I have distinguished by the letters A, B, C, and D) he has selected for his demonstration, the one (D) that is most crudely and carelessly modelled and most seriously damaged. Had he been fully confident of the claim that he puts forward so boldly, he might have discussed one of the other three (A, B, or C) less damaged models. The fact that he does not do so seems to suggest a fear that these three are too obviously elephants, and too compromising to be labelled macaws. But I would not have the reader suppose I am accusing my colleagues of deliberate misrepresentation. It is a familiar phenomenon in the psychology of everyday life to find people who are honestly convinced


A
C
B
D

of the truth of any belief citing the most irrelevant reasons in justification of their faith. The recognition of this fact makes it easier to understand the nature of the excuses put forward by some ethnologists in the vain attempt to get rid of the elephant-designs that are so compromising to the most cherished dogmas of their ethnological faith.

In collecting the Indian and Indo-Chinese evidence set forth in this book, I have had the loyal and enthusiastic help of Mr. Philip Jayasuriya ; and in thanking him I must also make some acknowledgment of the valuable assistance he received from the Dutch ethnologists in Leyden and The Hague, and from the Library staff of the Royal Asiatic Society.

Horace Gerrard has prepared most of the woodcuts that illustrate this book: the others have been engraved by his collaborator, K. Leigh Pemberton. They present the argument in graphic form and provide the justification for the issue of this book.

Without the assistance of Mr. Fred Hall, B.Sc.(Econ.), I would not have been able to prepare the manuscript for the press now. I am very grateful to him, not only for putting my notes into consecutive form, but also for checking the bibliographical references.

G.E.S.

BIBLIOGRAPHICAL NOTE

THE exhibition in the British Museum of the collection of casts and original sculptures of the Maya people of Central America made thirty years ago by Mr. Alfred Percival Maudslay, renders this an appropriate occasion for a discussion of the real significance of the Pre-Columbian civilisation of America.

In the *Guide to the Maudslay Collection of Maya Sculptures (Casts and Originals) from Central America* (British Museum, 1923), Mr. T. A. Joyce has provided a useful commentary on the Maya civilisation and a brief indication of the most important books and memoirs dealing with the amazing achievements of the Americans during ten centuries or so before the time of Christopher Columbus. It is interesting to compare Mr. Joyce's little handbook with a volume of similar size published by the American Museum of Natural History in New York. I refer to the second (revised) edition of Dr. Herbert J. Spinden's *Ancient Civilisations of Mexico and Central America* (1922). It gives a summary of the present state of our knowledge of the Maya and Aztec civilisations, and a fuller bibliography than the book issued by the British Museum, which is more strictly a guide to a particular collection.

Neither of these books contains any reference to the elephant or the controversy regarding it. But many readers of this book may be unfamiliar with recent discoveries in America, and with the attitude of mind of the museum officers on both sides of the Atlantic; hence these two books afford a useful introduction to the discussion. They are statements of the facts of the case by perhaps the most extreme opponents of the theory of diffusion upon the two sides of the Atlantic. This book is a criticism of what one might call "the museum opinion"; and it is important that its readers should be able to convince themselves—which they can easily do by reading the little museum handbooks I have mentioned—that it is no imaginary bogey I am attacking.

Of the memoirs that deal with the elephant controversy the following are important:

(1) A. von Humboldt, *Vues des Cordillères, et Monumens des Peuples Indigènes de l'Amerique* (Paris, 1813), called attention to the pictures of elephants in Aztec manuscripts, and suggested their derivation from Indian pictures of the elephant-headed god Ganesa. He also suggested the alternative explanations that the elephant-like animal depicted in the Mexican codices might be nothing more than conventionalised drawings of some local animal, such as the tapir, or might have been inspired by legends of extinct proboscideans.

(2) Lord Kingsborough, *Antiquities of Mexico* (nine volumes, London, 1831-1848, vol. VIII, p. 27),

was searching for the Lost Ten Tribes of Israel and denied the influence of India in America; yet he referred to the figure of a trunk resembling that of an elephant in the Mexican paintings.

(3) John Lloyd Stephens, *Incidents of Travel in Central America, Chiapas, and Yucatan*, 1841. Revised with additions by Frederick Catherwood, London, 1854, p. 95. See also Catherwood's beautiful engravings of the Stela B ("Monument N"), plates 25 and 27. Stephens was impressed by the resemblance of the trunked animals sculptured on one of the Copan stelæ to elephants. Although the Copan remains were known before his time, Stephens directed special attention to the objects which are the chief subject of discussion in this book.

(4) C. H. Smith, *The Natural History of the Human Species*, 1848, p. 104 *et seq.*, adopts the view that the tradition of the mastodon survived in American folk-lore.

(5) E. B. Tylor, *Researches into the Early History of Mankind*, 1865, p. 304. In this book the argument for the recognition of the Indian elephant in American design is put for the first time with cogency and logical clearness.

(6) Hubert Howe Bancroft, *The Native Races of the Pacific States of North America*, 1876, vol. V, pp. 43 and 44, footnote 99. Also vol. IV, pp. 163

and 305. A compilation of conflicting statements with reference to the representation of the elephant and the influence of Hindu culture in America.

(7) Henry W. Henshaw, *Animal Carvings from the Mounds of the Mississippi Valley.* Second Annual Report of the American Bureau of Ethnology (for 1880-81), Washington, 1883, pp. 152 and 155. The discussion of a mound claimed to have been made in the shape of an elephant.

(8) Alfred P. Maudslay, *Biologia Centrali-Americana* (*Archæology*, 1889-1902), Part II, text, November, 1900, p. 43). Plates XXXIII to XXXIX. This classical monograph provides the evidence from Copan upon which my argument is based. Although Dr. Maudslay emphasises the Asiatic features in the design upon Stela B, and refers to the elephant-like appearance of the animals with trunks, he somewhat inconsistently expresses the view that they are conventionalised tapirs, the opinion that was suggested by von Humboldt and was the fashionable excuse for evading the great issue at the time when Maudslay wrote.

(9) E. W. Förstemann, *Zur Entzifferung der Mayahandschriften III, Schildkrote und Schnecke in der Mayaliteratur*, Dresden, 1892, identifies the tortoise with the hieroglyph *kayab.*

(10) Cyrus Thomas, *Report on the Mound Explorations of the Bureau of Ethnology*, Twelfth Annual Report of the Bureau of Ethnology, for 1890-91, Washington, 1894, pp. 91-93, discusses the Elephant Mound.

(11) McGuire, *Pipes and Smoking Customs of the American Aborigines*, 1898, p. 523. The form of certain aboriginal pipes said to be modelled on the elephant.

(12) P. Schellhas, *Representation of Deities of the Maya Manuscripts ;* papers of the Peabody Museum, Harvard University, IV, 1904. An account of the pictures of gods and animals in the Maya codices. He applies the distinctive label B to the elephant-headed god, but will not admit that it is an elephant, although he refers to "the long, proboscis-like, pendant nose and a tongue (or teeth, fangs) hanging out in front and at the sides of the mouth" (p. 16).

(13) P. Schellhas, *An der Grenzen unseres Wissens*, 1908, pp. 56-62, agrees with von Humboldt that man in America was probably contemporary with some kind of elephant ; but objects to the identification of every trunked animal as a proboscidean. Artists might have devised some of these designs by a pure effort of the imagination without any animal model.

(14) W. Stempell, "Die Tierbilder der Mayahandschriften," *Zeitschrift für Ethnologie*, 1908, p. 716.

on the zoological evidence claims that the trunked animal in the Maya codices is undoubtedly an elephant, but suggests that it may be the extinct American elephant. On page 716 he refers to the history of the elephant controversy, and on page 718 criticises the earlier opinion of Seler (1888) and Brinton (*A Primer of Maya Hieroglyphics*) that the pictures of the deity in the codices labelled B by Schellhas are those of the "Tapir God." He refers to Schellhas's view that the form given to God B is due to the imagination and inventive ability of Maya artists.

(15) G. H. Gordon, "Conventionalism and Realism in Maya Art at Copan, with special reference to the treatment of the macaw," *Putnam Anniversary Volume*, pp. 191-195 (New York, 1909), regards the animal with the trunk upon Stela B at Copan as a conventionalised picture of the Blue Macaw of Central America.

(16) Eduard Seler, "Die Tierbilder der mexicanischen und Maya-Handschriften"; *Zeitschrift für Ethnologie*, Bd. 42, 1910, pp. 31-97. In this important memoir the trunked animals on the Copan Stela B and the Maya manuscripts are discussed and illustrated by a large series of excellent drawings; but the author comes to the conclusion that the animals are to be identified with the hieroglyph *kayab*, which Förstemann (*vide supra*) regards as a tortoise. Hence Seler

thinks the elephant-like pictures were really intended to depict tortoises. In an earlier memoir (*Zeitschrift für Ethnologie*, 1894, p. 581) Seler discussed the picture in the Codex Borgia which von Humboldt and Tylor (*vide supra*, 1 and 5) called "a masked figure with an elephant's head," and claimed that it was a bat-god (Fledermaus-Gott) !

(17) Alfred M. Tozzer and G. M. Allen, "The Animal Figures in the Maya Codices," *Peabody Museum Papers*, vol. IV, No. 3, p. 343 (1910) agree with Gordon as to the identification of the Blue Macaw.

(18) Herbert H. Spinden, "A Study of Maya Art," *Memoirs of the Peabody Museum*, vol. VI, 1913, p. 79, is another convert to the Blue Macaw speculation.

(19) G. Elliot Smith, "Pre-Columbian Representations of the Elephant in America," *Nature*, November 25th, 1915, p. 340; December 16th, 1915, p. 425; January 27th, 1916, p. 593. A claim that the animal with the trunk sculptured on the Copan Stela B and depicted in the Maya and Aztec manuscripts is the Indian elephant.

(20) Alfred M. Tozzer, *Nature*, January 27th, 1916, p. 592, re-affirms his belief in the identification of the Blue Macaw (*vide supra*), mainly because it has a spiral ornament under the "eye."

(21) Herbert J. Spinden, *Nature*, January 27th, 1916, p. 592 *et seq.*, re-affirms his belief in the identification of the Blue Macaw for the same reason as that given by Tozzer.

(22) Clark Wissler, *The American Indian*, 1917, p. 360 (repeated in the second edition, 1922), " doubts the similarity of these figures and South Asiatic drawings of elephants."

(23) G. Elliot Smith, *The Evolution of the Dragon* (John Rylands Library, Manchester, 1919), pp. 83-92, and p. 154 (Figure 19). A fuller discussion of the significance of the American elephant designs.

(24) Sylvanus Griswold Morley, *The Inscriptions at Copan* (Memoirs of the Carnegie Institution of Washington), 1920, reproves me for daring to defy the authority of the Harvard School of Ethnology. The claim for the Asiatic inspiration of Maya civilisation is described as " an extravagant hypothesis, long since relegated to the rubbish pile of scientific discards."

(25) T. A. Joyce, *Guide to the Maudslay Collection of Maya Sculptures from Central America* (British Museum), 1923, p. 7 . The tapir is " significant from a religious point of view " and is " regarded as the lightning animal and the rain-gods wore a mask resembling its rudimentary trunk." Three years previously (in the guide book to an exhibition of American art at the Burlington Fine Arts Club)

PLATE 1.

Indian Makara from a cave at Aiholi, in the form of the so-called "crocodile," with fish scales, an elephant's trunk and tusks, and a human figure emerging from the mouth (c. 6th Century A.D.)

Note especially the floral decoration above the head and body, the pattern around the eye, and the spiral ornaments below the jaw and near the shoulder. Note also the highly ornate spiral form of the caudal end of the body.

Mr. Joyce (in association with Sir Hercules Read) expressed his disapproval of those who persisted in mistaking the macaw for an elephant !

THE MAKARA

As the argument of this book is largely concerned with the Indian mythical " crocodile," or capricorn, the *makara*, the following references are important :

(26) Henry Cousens, " The Makara in Hindu Ornament," *Archæological Survey of India, Annual Report*, 1903-4, p. 227.

(27) Ordhendra C. Gangoly, " A Note on Kîrtimukha : Being the Life-History of an Indian Architectural Ornament,"*Rupam*, January, 1920.

(28) Akshaya Kumar Maitra, " The River Goddess Ganga," *Rupam*, April, 1921.

CHAPTER I

The Nature of the Problem

ON the banks of the river at Copan, in Honduras, near the present frontier of Guatemala, there is an imposing collection of ruins of stone pyramids, terraces, and walls enclosing great courtyards.[1] It is commonly supposed that this site was abandoned about thirteen centuries ago after having been occupied for five or six centuries by the people who erected the vast stone structures. Dates assigned by American archæologists to the erection of the earliest of these monuments range from the first to the fourth century A.D.; but I shall be surprised if eventually it is not shown that the monument with which I am mainly concerned in this book may be several centuries later, even as late as the period from the sixth to the ninth century A.D.

At the time when, as the outcome of a conversation with M. Victor Goloubew (of the École Français de l'Extreme Orient), the foregoing paragraph was written, I was not aware of the fact that Goodman had come to the conclusion " that Copan, Quirigua, Tikal, Menche, Piedras Negras, and the other more modern capitals

[1] Sylvanus Griswold Morley gives an exhaustive account of this site in his large monograph, *The Inscriptions at Copan*, published by The Carnegie Institution of Washington in 1920 Facing p. 416 there is a reproduction of Carlos Vierra's striking picture of Copan, which is a welcome complement to the drawings and plans made under the direction of Maudslay, Holmes and Morley.

PLATE 2.

The top of Stela B at Copan. (After Maudslay).

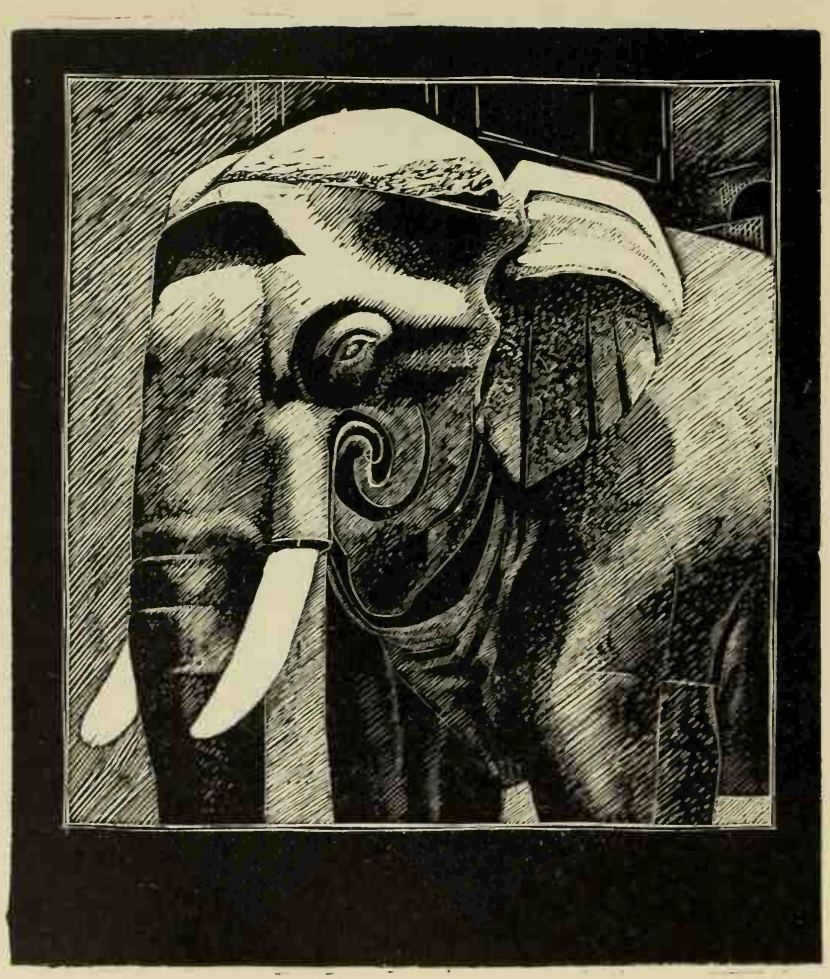


PLATE 3.

Statue of an elephant at Delhi Fort.

Note the irrevelant spiral appendage below the eye and compare it with the similar ornament of the American sculpture (Plate 2).

flourished from the sixth to the ninth century of our era, speaking in round terms."[1] The German archæologists suggest dates even more recent than this, which if justified, would clear away many difficulties.

During the occupation of the remarkable city of Copan the stonemasons carved in high relief a series of huge monoliths and erected them in the courtyards. One of these Stelæ, now distinguished by archæologists by the letter B, is the chief topic of discussion in this book.

Attention was called to it by Mr. John L. Stevens, who visited the site in 1839 and wrote the book *Incidents of Travel in Central America, Chiapas, and Yucatan*, which was published in 1841, illustrated by excellent woodcuts, including one of Stela B (which he called N) engraved by the artist Frederick Catherwood. Stephens himself referred to this monolith as an elaborately carved "idol," and called particular attention to the "two ornaments at the top," which, he wrote, "look like the trunks of elephants, an animal unknown in that country." But the most complete and reliable information concerning this monument has been provided by Mr. A. P. Maudslay, who devoted the years 1881 to 1894 to exploration of the Maya sites and the preparation of casts of its most important monuments. The results of his work are more widely known from the splendid illustrations in the volumes contributed by Mr. Maudslay (1889-1902) to Godman and Salvin's *Biologia Centrali-*

[1] Quoted by Morley, *op. cit.*, p. 530; also p. 534, where the dates, as estimated by Lehmann, Seler and Förstemann, range from 700 A.D. to 1134 A.D.

Americana—Archæology, from volume I of which (p. 42) I quote the following account of Stela B :

"Approximate height, 11 feet 9 inches. Average breadth, 3 feet 6 inches. This monument stands almost in the centre of the Great Plaza, and faces the east. The lower portion of the carving has been destroyed by fire, and the whole of the front of the monument, which is carved in high relief, has suffered considerable damage.

"The principal figure on the front of this Stela has much the appearance of a Chinaman. The face is bearded and has what appears to be a moustache joined into a curious ornament which hangs over the centre of the breastplate. The ears are furnished with pendants as well as with the usual ornaments through the centre of the lobe. The panel of the breastplate is ornamented with two of the symbols usually found on the girdle. On the apron is an exaggerated face without a lower jaw, which takes the place of the circles and bars found in Stela A.

"The head-dress bears a strong resemblance to a turban ; lying over it are some feathers and scroll-work, of which the attachments cannot properly be made out.

"Above the turban is a complicated ornament made up of two small human figures seated on the front of the grotesque face without a lower jaw. The great curved teeth are, however, common to this head and to the heads which bear some resemblance to those of elephants occupying the top corners of the Stela.

"The elephant-like appearance of these heads has been the subject of much discussion, but I fail to see any

PLATE 4.

The Copan Stela B. (After Maudslay).

reason why the form may not have been taken from the head of the tapir, an animal still commonly found in the neighbourhood. The exaggeration in the length of the nose or trunk is too common a feature in almost all the numerous grotesque heads found on these sculptures to call for any special comment in this case.

"On the upper part of the trunk orifices having the appearance of nostrils are clearly defined, and there are some cross-hatched marks on the lower part of the trunk. The eyes are almost surrounded by what appear to be scales. On the north side the scroll-work usually attached to the serpent's head is seen rising from the top of the ear, which is also furnished with a pendant ornament.

"Above both these trunked heads has probably been seated a small human figure, but that on the south only now remains. Each of these figures carried in his hand a peculiar baton or sceptre with a grotesque head on the top of it.

On "the right side" in Plate 2 "the grotesque head on the baton has a winged scroll arising from its forehead and another from the top of its head. On the other side it is difficult to determine whether the scroll appears to rise from the head really belongs to it, or whether it is attached to the ear of the large trunked head.

"Down each side of the Stela, below the large trunked head are three other heads with trunks less developed and with eyes of another shape, and with large teeth curved in the opposite direction to those of the upper heads. In the lowest of these heads only is the lower jaw

shown. All three heads on each side have the conventional ear with the serpent scroll rising from the top of it, and also an ear pendant with a small face upon it.

"From under the eyelid of the uppermost of these three heads hangs a band, to which is attached a grotesque head with a serpent acroll, hanging forehead downwards. From the back of this head a band passes over the shoulders of a small human figure, which is seated immediately above the prolonged teeth of the serpent's head attached to the breastplate of the principal figure on the front of the Stela. Only one of these small human figures can now be seen ; but it is probable that a similar figure has been broken off the north side of the monument, and it has been restored in the drawing to keep the balance of the design.

"The back of this Stela is decorated with a huge grotesque face."

In 1920 the Carnegie Institute of Washington published a large volume by Dr. Sylvanus Griswold Morley entitled "The Inscriptions at Copan," which contains the following reference to Stela B :

"The front is sculptured with a human figure of heroic size, whose somewhat mongoloid cast of countenance has given rise to a flood of ill-considered speculations regarding the possible Asiatic origin of the Maya civilisation. One of the most recent supporters of this extravagant hypothesis, long since relegated to the rubbish pile of scientific discards, is Arnold (*The American Egypt*, 1909, p. 284), who writes concerning the monument as follows :

PLATE 5.

Stela B. Left elevation

PLATE 6.

Stela B, Copan, seen obliquely from the right. (After Maudslay).

" ' Here, as pointed out on page 268, are carvings so strikingly Oriental that one cannot doubt their origin. The faces of the figure on the Stelæ are the faces that one can see to-day in Cambodia and Siam. The dress, the ornamentation, the turban-shaped head-dress (found in no other carvings but these) are all purely ancient Indo-Chinese.' "

This simple statement of an undoubted and easily verified fact Dr. Morley calls " an ill-considered speculation " ; but there is more to follow and in the same vein :

" Even as sober and restrained a writer as Stephens, who calls the monument N on his map, was led astray by the apparent resemblance of certain decorative elements on this monument to elephant trunks: 'the two elements [Stephens actually uses the word "ornaments," and not " elements "], at the top appear like the trunks of an elephant, an animal unknown in that country.' "

In the footnote giving the reference to Stephens (1841, Vol. I, p. 156) Dr. Morley adds : " Spinden was the first to point out the true nature of this element which is the beak of the blue macaw somewhat exaggerated in length." This is not accurate, for, as I have had occasion to point out, several other American ethnologists had adopted this interpretation before Spinden. Nor, again, is Dr. Morley altogether happy in the use of the phrase " Stephens was led astray," for in spite of the passing reference to the likeness of the ornaments to elephants' trunks Stephens' belief in the local development of the designs was unshaken.

Having thus reproved Arnold for daring to suggest that the Copan monument revealed features recalling the ancient stonework of Cambodia, and Stephens for admitting the likeness of the corner decorations to elephants, Dr. Morley then proceeds to refer to me in these terms : " More recently Elliot Smith has revived this highly improbable identification, finding detailed anatomical similarities between this decorative element in Stela B and the trunk of an elephant." He should have said the head of an elephant, for my claim was not based primarily on the form of the trunk. But without entering into the argument he merely appeals to authority, expressing the opinion that I have " been ably answered, however, by Tozzer, Spinden and Means," and adds in a footnote that these three " hastened to refute the extraordinary hypothesis, in which the writer (Morley) believes they were successful."

Having evaded the issue in this way, Dr. Morley enunciates once more the now familiar dogma : " It is hardly necessary to point out that any attempt which seeks to establish direct cultural connection between the Maya and any old-world civilisation, either Egyptian or Mongolian [this in reply to my claim for the influence of *Indian* culture in America] is quite at variance with the results of modern research in this field. And yet the superficial similarities of the Maya to these civilisations are such as to win for this now exploded hypothesis new adherents from time to time."

I have quoted these opinions in Dr. Morley's own words to define the issue. But as they add no new

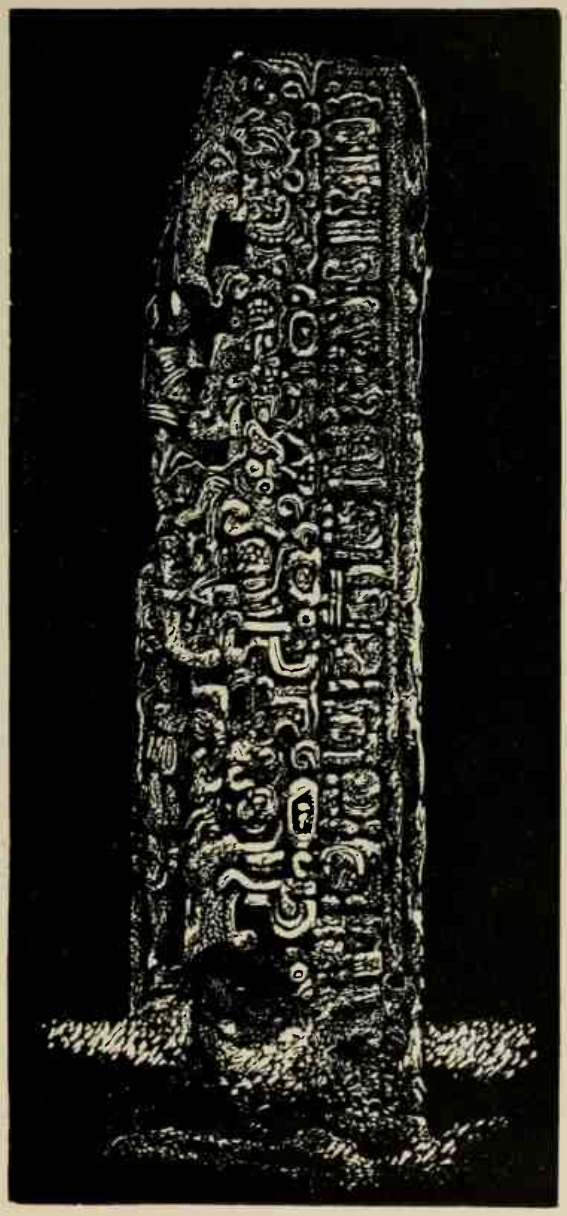


PLATE 7.

Stela B. Right elevation.

information I may return to the consideration of the facts as stated by Dr. Maudslay. I should like to call particular attention to the following points: (*a*) the Chinese appearance of the face; (*b*) the Indian turban; (*c*) the remarks about the elephant-like appearance of the heads at the top corners, and the suggestion that they represent tapirs; and (*d*) the huge grotesque face on the back of the stela.

With reference to the last of the special points I shall at present merely mention the Javanese stone statue of the elephant-headed god Ganesa from Bara, depicted by Dr. N. J. Krom[1], on the back of which there is a huge grotesque face of the *kalamakara*, an analogy the important significance of which will appear later. At this stage I need not emphasise again the obvious significance of an Indian turban and the Chinese cast of features in an American statue. But the likeness of the heads at the corners to those of elephants, which was specially noted both by Stephens and Maudslay, demands intensive study. Maudslay thinks they must be caricatures of the tapir, because it was an animal familiar to the Maya people. But as the eye has been taken for the nostril and the ear for the eye, it is difficult to maintain the view that a familiar animal was being depicted. Nor again is it credible that a craftsman so highly skilled in modelling (as the artist who fashioned this stela must have been) could have made so indifferent a portrait of a tapir as this. Further, the representations of the elephant's tusks, the under surface of his trunk,

[1] Inleiding tot de Hindoe-Javanasche Kunst, 1923.

the lower lip, the large auditory pinna, and the turbaned rider with his elephant goad, all remain inexplicable if this sculpture was intended for a tapir.

The tapir explanation is clearly untenable. Moreover it has been renounced by most recent writers on American archæology. But before I turn to consider the rival claims that the proboscidean animals sculptured upon the Copan stela were really meant to be tortoises or blue macaws—there are certain other facts to which I must direct the reader's attention.

In the first place it must not be forgotten that these stelæ at Copan were erected within walled courts and in close association with great pyramidal structures of a very distinctive type. Pyramids presenting similarly peculiar features were being built in Mesopotamia as long ago as 2,400 B.C., if we are to accept as evidence the restoration of the temple at Nippur made by Messrs. Hilprecht and Fisher; and in association with these Babylonian monuments were walled courts just as at Copan. For many centuries the Babylonians and Assyrians continued to erect such monuments, not, however, of stone, like the Maya people, but of mud brick. As a result of the maritime intercourse between the Persian Gulf and India during the centuries just before the Christian era, the people of Ceylon and Southern India adopted from Babylonia the custom of building pyramids, but in the course of time they made them of stone. In the early centuries of the Christian era the people of Cambodia and Java adopted this practice from India and Ceylon; and the less ornate pyramids of Ka-Keo and Ba-Kong

PLATE 8.

A mediæval sculpture from Mysore showing analogies in composition and in the dress of the chief figure with the American sculpture.

PLATE 9.

A diagrammatic representation of Plate 4. (After Maudslay).

in the south-eastern corner of Asia reproduce with singular precision the features of the ruined pyramid of Polannaruwa in Ceylon. But in Eastern Asia and Indonesia the pyramid was adopted and developed on a scale and with a luxuriance of embellishment to which India never attained. It became in fact the dominant feature of the religious architecture of Eastern Asia. Hence it is something more than a mere coincidence that in the New World during the same centuries the pyramid plays the same obtrusive part as, or even more than, it did on the other side of the Pacific. Pyramids conforming to the South-Eastern Asiatic type are found in Western Peru and Equador, Central America and Mexico; and in the Mississippi Valley and the South-eastern States of North America degraded types of pyramids are found which bear the same relationship to those of Mexico, as the rude pyramidal structures found in Japan, Shantung, Tahiti, the Marquesas and other islands in Oceania do to those of Cambodia. Hence the elephant sculptures of Copan are intimately associated with peculiarly distinctive types of buildings, the exact parallels for which can be found in India, where also occur the practices of carving models of elephants and the wearing of turbans as head-dress. But the intimate association of pyramids with stone stelæ embellished with sculptured representations of gods is also found in India as another element in the same complex, which forces us to recognise in Copan the obtrusive influence of Hindu culture. The analogy does not end, however, with the representation of the Indian elephant and Indian turbans upon monoliths

associated with stone pyramids of Indian type. The composition of the design on the stelæ was clearly inspired by Indian prototypes; and the beliefs associated with the elephant-headed god in Mexico and Central America, which are depicted on the most ancient American manuscripts, are identical with those which the people of India have associated with the god Indra ever since the time of their earliest writings, the Rig Veda; and the god Indra was intimately associated with the elephant. If the objection is raised that the diffusion of culture did not occur in Vedic but in early Christian times, this difficulty is fully explained by the fact that the type of Indian culture still found in many parts of Indonesia is essentially Vedic in type.

These corroborative facts are worthy of further consideration. At the time when the Copan stelæ were being made in America, Indian sculptors were carving stone slabs in a similar way; and the analogy between the two compositions is surely too close to be merely accidental. I have already said that it must not be assumed that the Indian motives are revealed only in certain selected details of the Maya stelæ. Equally definite is the exactitude with which the composition of the Indian prototypes are reproduced in the American sculptures. In the Bulletin of the Metropolitan Museum of Art (New York, Vol. XIII, April, 1918, p. 87), there is a photograph of a stone relief of Vishnu from Kikkeri in Mysore (Plate 7), which is referred to the last quarter of the twelfth century. This beautiful example of Indian sculpture presents a remarkable likeness to the

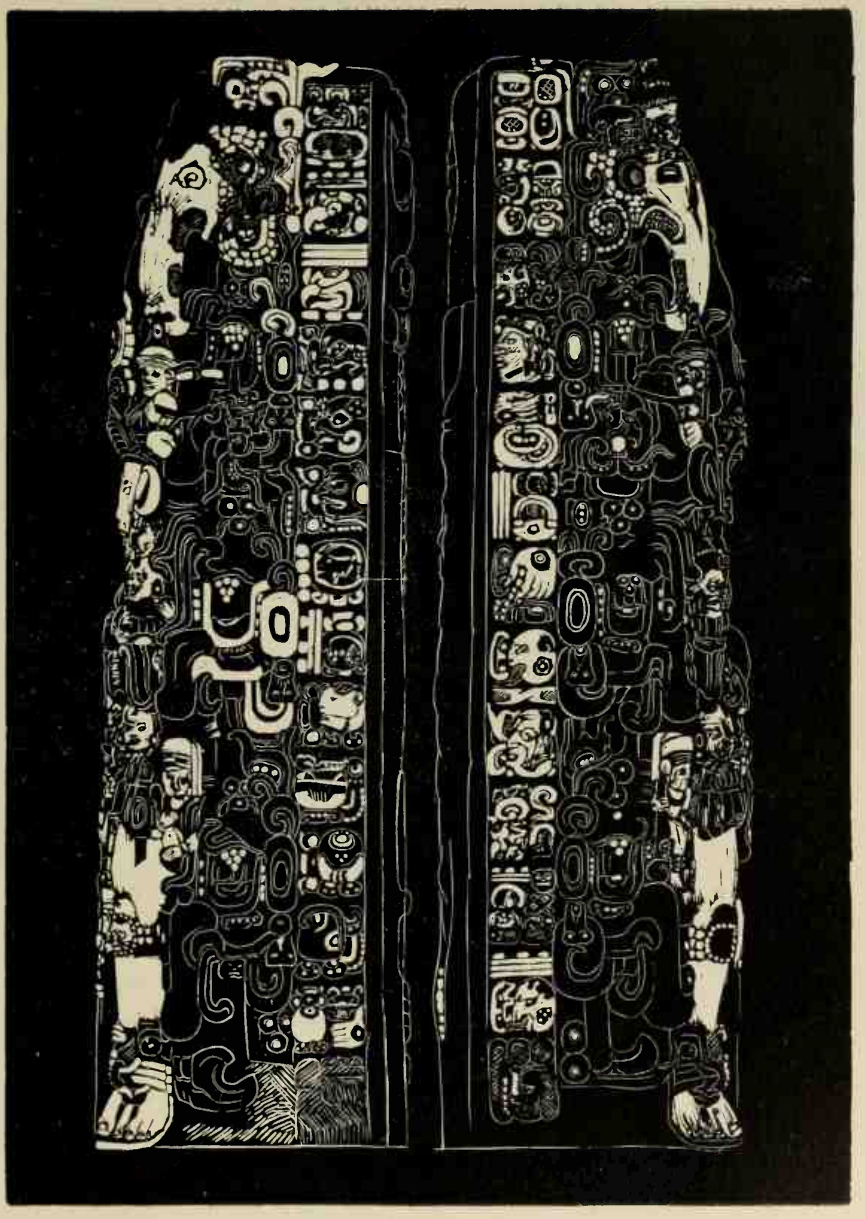


PLATE 10.

After Maudslay's diagrams of the edges of Stela B.

Maya work, not merely in the grouping and proportions of the figures, but also in many of the details of the ornamentation. For example, there is the similarity of the fantastic pendant from the belt, and the gaiters. But the differences are no less interesting than the resemblances. The Mysore sculpture is, perhaps, several centuries later than the Maya monuments and reveals certain features that developed in India after the easterly diffusion of culture, the effects of which are revealed in the American carvings. Moreover, the latter are embellished with certain designs which were acquired in Eastern Asia and Melanesia during the process of transference from India to Central America. Of the former category of differences the supernumary pair of arms in the Mysore sculpture is lacking in the American figures. As an example of the latter I may cite the horizontal object carried by the gods in the Maya sculptures, which Dr. Spinden calls the " mannikin sceptre," and Mr. Joyce " the ceremonial axe." (*Mexican Archæology*, pp. 235-238). In the art of Ceylon, Eastern Asia and Indonesia, it was not uncommon for figures of priests and gods to be represented carrying a horizontal roll of scripture, a sword, or some implement, in the same attitude as that shown in the American monuments from Copan, Quirigua, Naranjo, *et cetera ;* and in Borneo the form of these ceremonial objects seems to preserve the prototype of those revealed in the Maya monuments on the other side of the Pacific. The reader will find photographs of such implements in Dr. H. H. Juynboll's *Katalog des Ethnographischen Reichsmuseums* of Leyden (*Borneo*,

Bd. II, 2nd Abth., 1910, pp. 236-7). There is thus no valid reason for Dr. Spinden's difficulty in interpreting these remarkable symbols of the god's power ; nor should there be any hesitation in recognising the source of the inspiration. In some of the American designs the symbol has assumed the form of a double-headed serpent—or rather a composite *naga-makara*—from the gaping jaws of which protrudes the head of the rain-god Chac. This is a distinctively Indian motive (though the underlying idea was borrowed originally from the Babylonian conceptions of Ea and Marduk), which became very popular and widely diffused in Eastern Asia before it crossed the Pacific to Central America. Yet Dr. Spinden, forgetting Jonah's fate and the classical story of the Argonauts' experience in their search for the Golden Fleece, pretends that the incident of the emergence of a human head from the monster's jaws affords positive evidence of the invention of the design in America. Both in folk-tale and picture this is one of the oldest and most widespread episodes of Old World mythology. Even if this fact were not well known, the peculiarly distinctive way of conventionalising the serpent-makara's upper jaws would alone have been sufficient to reveal the Indian origin and the date of the original invention of the designs displayed in the Maya sculptures.

The sculptor of the Copan monument with which this book is chiefly concerned had no conception of the true significance of the elephant-goad. He has converted it into a sceptre, and given it the conventional form of the naga-makara.

PLATE 11.

An Indonesian Makara or mythical "crocodile" from Java. Note the crescentic ornament on the side of the head; the elongation of the upper jaw and the conversion of its tip into a serpent's head; and the figure emerging from the mouth. This combination of makara (crocodile) and naga (serpent) is closely connected with the elephant.

There are scores of other features in the intricate sculpture on the Maya stelæ that reveal not only Indian but also Indo-Chinese, Indonesian and Melanesian influence—the ear-plugs and pendants, the bracelets, the anklets, the form of the girdle (and the Conus shells, so distinctive of Oceania) and many of the arbitrary forms in the ornamentation—but I need not stay to discuss such corroborative details, the meaning of which must be apparent to anyone who seriously considers these concrete facts.

To my mind, this and other evidence clearly points to the conclusion that the inspiration to develop civilisation in America (and many, if not most, of its ingredients) came from the other side of the Pacific in the first ten centuries of the Christian era. On the other hand, Dr. Morley, representing one school of American opinion, claims that the pre-Columbian civilisation is "a native American product, developed in its entirety in the New World." This is the clear-cut difference between two interpretations of the evidence which constitutes the problem to be solved.

But the issue involved is not merely whether or not the Copan sculptor, thirteen centuries or so ago, was modelling an elephant, or whether Asiatic influences shaped the nascent civilisation of America; it is the attitude we should adopt towards the problem of the origin of civilisation. Is the artificial product that we call civilisation common to the world at large, or did the various peoples work out for themselves in complete isolation the various types of culture we call American,

Chinese, Indian, Babylonian, and Egyptian, without any contact or prompting the one by the other? It is the fundamental problem of the nature of man's inventive powers that has to be solved in this enquiry.

Other Evidence of Indian Influence in America

The late Sir Edward Tylor, perhaps more than any other scholar, was responsible for securing recognition for the speculations of Waitz and Bastian claiming the independent evolution of customs and beliefs ; or perhaps it would be more correct to say the hypothesis which these German ethnologists borrowed directly or indirectly from the Scottish historian Robertson, who in 1788 enunciated it in his *History of America*. Without Tylor's persistent advocacy such doctrines would not have received credence on the part of serious men, but would have lapsed into the oblivion from which they should never have emerged. In spite of this unfortunate disservice to ethnology Tylor was not a partisan, but a truly scientific man. He was not defending a dogma, but seeking for the truth ; hence he did not hesitate to call attention to certain important evidence that was not in accordance with the hypothesis of independent development, for which he was himself the chief sponsor. In his *History of Early Civilisation*, written before he was seriously committed to the hypothesis of so-called "psychic unity," it is no exaggeration to claim that his attitude was on the whole clearly in favour of the world-wide diffusion of early culture. But, in 1878, in spite of the fact that in the meantime he had become the leader

of the new movement in favour of so-called independent evolution of custom and belief, he called attention to evidence that put a very severe strain on the validity of his own doctrine. For in the Journal of the Anthropological Institute he made out a clear and unassailable case for the derivation of the Mexican game *patolli* from the Indian game *pachesi*. The cogency of his argument has not been affected by the unsuccessful attempt of Messrs. Culin and Cushing to prove the former "thoroughly American in origin."[1] Then again at the Oxford meeting of the British Association in 1894 Tylor once more made a damaging onslaught on the theory so closely connected with his own name. In a communication on Mythical Beliefs as Evidence in the History of Culture, he called attention to the complete identity of the experiences of the soul in four scenes of the Buddhist purgatory, depicted on Japanese temple scrolls, and those of the Mexican journey to the Spirit land in the Aztec Vatican codex, and rightly used them as irrefutable evidence that the pre-Columbian culture in America took shape under Asiatic influences. This was a characteristically honest action, typical of the man, frankly to seek the truth, even if in doing so he had to cite evidence that was apt to destroy the very foundations of his own ethnological beliefs. But not content with recording this case and drawing the inference "that the appearance of analogues so close and complex of Buddhist ideas on Mexico constituted a correspondence of so high

[1] See D. Brinton, "On various supposed relations between the American and Asian races," *Memoirs of the International Congress of Anthropology*, p. 149.

an order as to preclude any explanation except direct transmission from one religion to another," he also emphasised once more the importance of " Humboldt's argument from the calendars and myghic catastrophies in Mexico and Asia," and to the metal-work and games. To use his own words, he " expressed the opinion that on these cumulative proofs, anthropologists might well feel justified in treating the nations of America as having reached their level of culture under Asiatic influence."

In his *Early History of Mankind* Tylor says : " Father Charlevoix, whose *History of New France* was published in 1744, records a North American legend of a great elk. ' There is current also among these barbarians a pleasant enough tradition of a Great Elk, beside whom others seem like ants. He has, they say, legs so high that eight feet of snow do not embarrass him ; his skin is proof against all sorts of weapons, and he has a sort of arm which comes out of his shoulder, and which he uses as we do ours ' (Charlevoix, vol. V, p. 187). It is hard to imagine that anything but the actual sight of a live elephant can have given rise to this tradition. The suggestion that it might have been founded on the sight of a mammoth frozen with his flesh and skin, as they are found in Siberia, is not tenable, for the trunks and tails of these animals perish first, and are not preserved like the more solid parts, so that the Asiatic myths which have grown out of the finding of these frozen beasts, know nothing of such appendages. Moreover, no savage who had never heard of the use of an elephant's trunk would imagine from a sight of the dead animal, even if its trunk

PLATE 12.

A scene from the Aztec Codex Borgia, which von Humboldt and Tylor refer to as a figure wearing an elephant's head as a mask. Seler, however, calls it the "bat-god." (After Tylor).

were perfect, that its use was to be compared with that of a man's arm. The notion that the Indian story of the Great Elk was a real reminiscence of a living proboscidean, is strengthened by a remarkable drawing from one of the Mexican picture-writings. It represents a masked priest sacrificing a human victim and Humboldt copies it in the *Vues des Cordillères*, with the following remarks: 'I should not have had this hideous scene engraved, were it not that the disguise of the sacrificing priest presents some remarkable and apparently not accidental resemblances with the Hindoo Ganesa [the elephant-headed God of Wisdom]'" (pp. 304 and 305, and Fig. 30, reproduced here as Plate 12).

Von Humboldt goes on to say: "The Mexicans used masks imitating the form of serpents, a crocodile's or a jaguar's head. On the sacrificer's mask one can recognise the trunk of an elephant or of some pachyderm whose head has a similar conformation, but the upper jaw is furnished with incisor teeth. The tapir's snout is undoubtedly longer than that of our pigs; but there is a great difference between the tapir's snout and the trunk figured in the Codex Borgianus. Did the people of Aztlan, who came from Asia, preserve some vague ideas about elephants, or, to mention a much less likely possibility, did their traditions go back to an epoch when America was the home of these gigantic animals, whose fossilised remains are found in marly ground, even upon the summit of the Mexican Cordillera? Possibly also there existed, in the North-western part of the New World, in the countries visited neither by Hearne, nor

Mackenzie, nor Lewis, an unknown pachyderm which, so far as the configuration of its trunk is concerned, was intermediate between the elephant and the tapir."

I have quoted this interesting statement in full because two of Humboldt's suggestions—the possibility of the pictures being intended to represent, not the elephant but the tapir, or, if meant for an elephant, of it being not the Indian species but an extinct American form—are still being actively used by those who persist in denying any pre-Columbian connection between Southern Asia and America.

It is remarkable that Humboldt should have indulged in speculations concerning the possibility of the survival of some strange proboscidean model in America, immediately after calling attention to the resemblances of the priest's head-dress to the Indian Ganesa. Moreover, he also directed attention in the same book to even more striking similarities between the Indian and the Mexican mythologies.

Bancroft sums up some of the early discussions of the problem at issue in these terms : " An ornament bearing some resemblance to an elephant's trunk, found on some of the ruined buildings and images in America, chiefly at Uxmal, has been thought by some writers to support the theory of a South-Asiatic origin. Others have thought that this hook represents the elongated snout of the tapir, an animal common in Central America, and held sacred in some parts. The resemblance to either trunk or snout can be traced, however, only with the aid of a very lively imagination, and the point seems to me unworthy

of serious discussion." If the Uxmal monument stood alone the extreme conventionalisation of the proboscis would perhaps have justified Bancroft's remarks; but, having the Asiatic prototypes, we know what the American ornaments represent. They are clearly the surrogates of the elephant-like type of makara, so familiar on the sacred buildings of Siam, Cambodia and elsewhere in Eastern Asia, as well as in Borneo and Java.

The tapir hypothesis, in spite of the absence of any evidence in support of it, beyond the presence of the tapir in Central America, held the field until thirteen years ago, Brinton, Maudslay and Seler being among the latest supporters of it. But in 1910 the latter adopted Foestemann's extraordinary suggestion that some of the supposed representations of elephants were intended for *tortoises*—a very curious commentary on the hypothesis of certain American writers, who claim that the Copan elephants were really meant to represent the *Blue Macaw!*

Lord Kingsborough, who spent a fortune in endeavouring to prove that the Lost Ten Tribes of Israel found a refuge in America, was equally wide of the mark when he claimed that "there is not the slightest ground for supposing that the Mexicans and Peruvians were acquainted with any portion of the Hindoo mythology"; but he realised the situation more clearly when he added: "since their knowledge of even one species of animal peculiar to the Old Continent, and not found in America, would, if distinctly proved, furnish a convincing argument of a communication having taken place in former ages between the people of the two hemispheres, we cannot

but think that the likeness to the head of a rhinoceros, in the thirty-sixth page of the Mexican painting preserved in the collection of Sir Thomas Bodley; the figure of the trunk resembling that of an elephant, in the Mexican paintings; and the fact, recorded by Simon, that what resembled the rib of a camel was kept for many ages as a relic, and held in great reverence, in one of the provinces of Bogota—are deserving of attention."

Bancroft (*op. cit.* note 99) also quotes the views of von Humboldt and Waldeck in support of the opinion that the elephant was depicted in Central American sculptures and codices.

I shall return to the consideration of these views later on, when I have set forth the nature of the evidence which definitely establishes the facts that not only the sculptures and pictures represent elephants, but also that when these designs were brought to America a large number of Hindu beliefs were introduced along with them.

Appendix

Note on the Delhi Elephants

(shown in Plate 3)

The presence of the spiral ornament upon the Indian model of an elephant is so important a fact that some account of the Delhi statues is appended to this chapter.

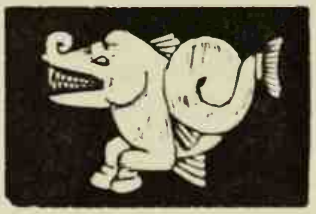
In the Annual Report for 1905-06 of the Archæological Survey of India is given, on pages 33-42, an outline of the history of the original elephant statues of the citadel of Delhi, and of their restoration within recent

times. The grandeur of these life-size sculptures evoked the admiration of Bernier in 1663, and their appearance was also noted a few years later by de Thevenot, who was apparently the last European to have seen them standing. Succeeding travellers ascribed their destruction to Aurangzeb, in whose reign they disappeared. In 1863 life-size fragments of two elephants and their riders were found buried under a house within the fort. This discovery was announced by General Cunningham, first in the Journal of the Bengal Asiatic Society (XXXII, 1863, pp. 296-99), and subsequently in his Report for the Archæological Survey in 1863. In 1866 such of these pieces as could be used were incorporated in the construction of an elephant statue, which was erected in Delhi. This statue is a remarkable example of inaccurate anatomical detail, as Mr. (now Sir) J. H. Marshall, the author of the article, is at pains to prove.

In 1903 the restoration of duplicate statues to the original position, outside the entrance of the fort, was suggested by Lord Curzon; and Mr. R. D. Mackenzie, an artist of wide experience in Indian art, was commissioned to prepare a model for the new statues, based on the fragments of the original that were available. From this model two elephants were carved in stone by Indian artists. This division of labour was intended to secure both correctness of anatomical detail, as well as the retention of a distinctively Indian idiom in the finished work. It is of interest to note that while in Mr. Mackenzie's model (a photograph of which is given on page 38 of the Report), the spiral appendage appears in

a subdued form, in the completed statue (see Plate 3), the Indian sculptor has brought it out in much more striking prominence. In his article, Sir John Marshall points out that Mr. Mackenzie purposely toned the conventional element in his model, in order that it should not be over-emphasised in the copy. The vigorous use of the spiral by the native artist seems to offer conclusive evidence that in Indian art it is an accepted conventionalism in the elephant design.

It is a matter for regret that the expert writers on this subject have been unable to assign a fairly precise date to the making of the original statues. Sir J. Marshall suggests that they are Hindu in origin, and that they were set up in Delhi after being brought there as spoils of war, when the riders, who were clad as Mohammedans, were added. In the modern restoration, these "mahouts" have not been included for want of sufficient accurate details.



CHAPTER II

Other Representations of the Elephant

THE Copan elephants are not the only representations of the creature in America. Without taking into consideration such instances as the much disputed "Elephant mound" of Wisconsin (see Henshaw and Thomas), the "Elephant pipes" of Iowa (McGuire), and the Uxmal ornaments in the pre-Columbian codices and sculptured hieroglyphics, there are large numbers of representations of the elephant as the so-called long-nosed god, to which Schellhas has given the non-committal designation "god B." I have already quoted von Humboldt's comments on the elephant head-dress, and Seler's other interpretation. Inscribed upon the walls of the temple at Palenque is the figure of a man wearing the skin of an elephant's head upon his own. Gruenwedel reproduces (*Buddhist Art*, p. 138) examples of the use of a similar head-dress from the old world—one from a Pekin Lamaist miniature on silk (Plate 13) representing Virudhaka, "the ruler of the South and Chief of the Kumbhandas, his attributes being a helmet of the skin of an elephant's head and a long sword. In this, moreover, he has a very remarkable Hellenic counterpart in Demetrios, son of Euthydemos I, who is represented on his coin with just such a head-covering

—a distinction possibly referring back to the heroic deeds attributed to Alexander the Great."

In his memoir on *The Deities of the Maya Manuscripts* (Peabody Museum Papers, 1904, p. 16) Dr. Paul Schellhas refers to the deity to which he applied the distinctive label B, as "the god with the large nose and lolling tongue." What he describes as the "long, proboscis-like, pendant nose" is the elephant's trunk; and the elephant's tusks are referred to as "a tongue (or teeth, fangs) hanging out in front or at the sides of the mouth."

Elsewhere in the same work Schellhas describes "the god with the ornamented nose" (designated by the letter K), which he says is not identical with god B (the elephant-headed rain god), but is probably closely related to him (p. 32). "In the head of god K we recognise the ornament so common in the temple ruins of Central America—the so-called 'elephant's trunk.'" The peculiar conventionalised face, with the projecting, proboscis-shaped nose, which is applied chiefly to the corners of temple walls, displays unquestionably the features of god K" (p. 34).

There is a wide divergence of opinion among archæologists as to the significance of the trunk-like ornament on the stone buildings: but comparison with the architecture of Siam and Cambodia reveals the same feature, which can there be recognised as the makara, sometimes equipped with an elephant's trunk.

In 1908, Dr. W. Stempell, Professor of Zoology in the University of Münster, approached the study of the Maya manuscripts from the biological standpoint for the

PLATE 13.

A Chinese figure with the elephant skin as a head-dress and the sword carried in a position analogous to that of the sceptre in the American figures. (After Gruenwedel).

PLATE 14.

Design from Greek coin, showing elephant skin being worn in a way similar to that shown in Plate 13.

purpose of identifying the animals represented in them.[1] The mythological figure which Schellhas in 1904 distinguished as "God B" he describes (p. 717) as the god with the elephant's head; but, instead of recognising in it a conventionalised representation of the Indian elephant, he assumes it to be the extinct pleistocene American creature, *Elephas columbi*, of Falcon. The pictures he is discussing were drawn many centuries after this proboscidean had become extinct. Moreover, even if we were to admit that some early Maya palæontologist chose a fossil mammal as a symbol of his chief deity, and either imagined the form of his fleshy trunk (or studied frozen specimens thousands of miles away from the place where these drawings were made) there would still remain the problem of explaining why this proboscidean deity (as will be explained later, page 51) should be credited with the same exploits as the Vedic god Indra of the Old World.

But, if Professor Stempell's suggestion that the artist who drew the Elephant-headed god of Mexico and Central America was inspired by the reminiscence of a long-extinct animal is incredible and unconvincing, his arguments in demonstration of the fact that it does really represent a proboscidean are not without interest. He had already discussed the problem of the identification of the mythological deer of the Maya codices; and as a way out of his difficulty had considered the possibility of a Miocene fossil (p. 715) having been chosen as the

[1] "Die Tierbilden der Mayahandschriften," *Zeitschrift für Ethnologie*, Bd. 40, 1908, p. 716.

model—an altogether fantastic proposal. But, he proceeds, if the identification of the ungulate called Mazatl is in the highest degree doubtful, whether in fact we have to do with the representation of an extinct animal, the problem of the elephant, which also is extinct in America, is easier of solution. For if manuscripts nowhere represent the creature itself, they contain numerous pictures of a god with a distinctive head and elongated snout and tusks, the elephant-like form of which is beyond question.

Although nowhere in the manuscripts is any picture of the animal itself found, there are numerous heads of deities the elephant-likeness of which affords a moderately certain indication that either by the actual sight or by tradition a more or less definite representation of such a head had been made. In his book *An den Grenzen unseres Wissens* (1908, pp. 56-62), Dr. P. Schellhas discussed the elephant problem—which was first propounded by A. von Humboldt a century earlier—from different points of view, and arrived at the conclusion that at one time man in America must have lived with some species of elephant, but that every trunk-like drawing cannot, without further enquiry, be regarded as sufficient demonstration of reference to the elephant, since man's inventiveness might devise such fantastic forms without an animal prototype. But if one merely studies the head of the deity in question with the eye of a zoologist, one finds that the proboscidean likeness is not due solely to the length of the nose, but also to the characteristic form and bending of this nose, the shape of the whole

PLATE 15.

The American elephant-headed God of Rain with the serpent coiled to form a water-sack to hold up the rain. He carries thunderbolts shaped like human hands. (From the Maya Codex Cortes, after Seler).

head, and—last but not least—the expression, the way in which the trunks are shown. At any rate Stempell believes it is correct to claim, after reviewing all the pictures of the god B (of Schellhas), that the prominent decoration at the root of the trunk represents the curved tusks of the species of elephant, the mammoth, that deserves chief consideration. The elephant-nature of the god's head in question (and probably also god K of Schellhas, the god with the ornamental nose) is unquestionable.

According to Stempell the elongated trunks, which as fantastically stylised gods' heads (god B) are so common on the walls and friezes of the old Yucatan houses are also elephants' trunks. For all of these the model, so he thinks, is *Elephas columbi* Falcon, whose remains are found in the Lower Pleistocene or Upper Pliocene, as well as in the relatively more recent deposits of Texas, California, Colorado, Florida and Mexico. It is presumably only a race of *Elephas primigenius*, that is, a mammoth. As pictures representing the European mammoth reveal the contemporaneity of man and the mammoth in Europe, so, according to Stempell, these heads of deities make a similar conclusion very probable for Middle America.

In reply to the view of Seler (1880) and Brinton[1] that the head represented in the pictures of god B is a tapir's, Stempell protests that from the zoological standpoint the heads represented in the Codices Troano and Cortesianus

[1] D. G. Brinton, *A Primer of Maya Hieroglyphics*, Publications of the University of Pennsylvania, Series on Philosophy, Literature and Archæology, vol. III, 1895, No. 2, pp. 54 *et seq.*

recall the elephant much more nearly than the tapir. He gives conclusive reasons why it cannot be a tapir (p. 719).

Although Dr. Stempell's opinion as a professor of zoology is a valuable corroboration of the fact that the head of the god B represented in the Maya manuscripts is an elephant's, his attempt to interpret its archæological significance is not so happy. The pictures of the mammoth found in the French caves are the work of men who lived many thousands of years ago and were contemporaries of the mammoths which they depicted. The Maya drawings of the elephant-headed god were made not much more than (if indeed as much as) a thousand years ago ; and it is in the highest degree improbable that the artists ever saw the remains of the creature or heard any tradition of its former existence. Even if this unlikely phenomenon had occurred it is not credible that they would have equipped the most popular of their gods with the head of the traditional creature, and, what is even more inexplicable, made so correct a restoration of the trunk on the basis of a verbal tradition that had been in currency for thousands of years ! Professor Stempell's theory of the mammoth will not stand the strain of these improbabilities. But a study of the incidents depicted upon the Maya manuscripts completes the demolition of his attempted explanation of the elephant-head of the god B. For the stories graphically told in these rude pictures are the late variants of the Vedic myth of Indra ; and the creature whose head figures in the American pictures is Indra's elephant and not the extinct

PLATE 16.

The elephant-headed God Chac of Yucatan pouring out rain from a water-jar, and putting his foot upon the head of a serpent, who is preventing the rain from reaching the earth. (From the Codex Troano, after Seler).

mammoth. The elephant heads of the Copan monuments complete the corroboration; for there an unmistakable Indian *mahout* is shown.

In his account of the discovery of a skeleton of *Mammut americanum* in Connecticut, Mr. Charles Schuchert[1] has discussed the problem whether man and the mammoth were contemporaries in America. In support of his claim that *Mammut americanum* may have become extinct in America "only a thousand or at the most a few thousand years ago," and that the American Indians using implements of neolithic type may have played some part in exterminating it, he says, "it must not be forgotten that John M. Clarke in 1887 dug up at Attica, Wyoming county, New York, bones of *Mammut americanum* associated with pottery and charcoal." Moreover, he mentions that in Kansas an arrowhead was found in the marl underneath and in contact with a right scapula of the extinct *Bison occidentalis*. In this marl is also found the remains of *Elephas primigenius*, an animal well known to ancient man of Western Europe.

But even if all doubt as to man's arrival in America before the extinction of these proboscideans could be resolved—and it must be confessed that the question at issue has not yet been definitely answered—it would not affect the problem that we have to solve. For it was not until several centuries after the beginning of the Christian era that the Copan elephants were carved and the pictures in the Maya codices were drawn. Moreover, it is the Indian elephant that is represented in these American

[1] *The American Journal of Science*, Vol. xxxvii, April, 1914, p. 328.

sculptures and drawings, with the symbolism of Eastern Asia, illustrating myths which came from the Old World. In other worlds it is not the fact of the elephant being depicted that chiefly interests us, so much as the conventional trappings which surround it and establish the time at which it was introduced into America and the place in the Old World from which it came. The pictures were clearly not made by anyone who knew the live elephant; and the origin of the curious blending of the features of the elephant and the serpent in a very distinctive form of conventionalisation can be referred definitely to Asia.

On April 17th, 1921, Mr. Jay L. B. Taylor found in a cavern on his ranch in Missouri a bone bearing an incised elephant-like figure, a detailed account of which he communicated to the American Museum of Natural History in New York. This was published in that Museum's journal, *Natural History*, 1922, with the title *Did the Indian know the Mastodon?* Eighteen years earlier the cavern had been examined by Dr. Charles Peabody and Mr. Warren K. Moorehead, who directed attention to its archæological importance as a site formerly inhabited by prehistoric man. This drawing may possibly establish the fact of the contemporary existence in America of man and the Mastodon, but for the reasons already cited, it has no bearing upon the Maya representations of the Asiatic conventionalised forms of the Indian elephant.

In his argument for the identification of the long-nosed creature as the elephant, Stempell was referring,

not to the Copan sculptures, but to the remarkable drawing from the Codex Troano (Plate 16).

Stempell describes the scene as " the elephant-headed god B standing upon the head of a serpent," and Seler as " the serpent as the footstool of the rain-god." In another drawing, which is taken from the Codex Cortes, the same theme is represented in another way (Plate 13). The serpent (the American rattlesnake) is shown retaining the water by coiling itself into a sac to hold it up and prevent it from reaching the earth. In the various codices this episode is dealt with in quite as great a variety of ways as the ancient Indian poets treated it when they sang of the exploits of Indra's victory over the serpent Vritra, the restrainer, who caught and kept it in the clouds of the rain that was falling to earth (Hopkins, *Religions of India*, p. 94).

The evidence provided by the legends associated with the elephant-headed god in America and Indra in India is of so remarkable a nature that the comparison of the two mythologies calls for fuller consideration.

I shall not attempt the difficult task of giving an account of the amazingly complex relationships of the Mexican rain-god Tlaloc. For details of the protean manifestations of that deity's attributes and achievements the reader is referred to Professor Seler's monograph on the Codex Vaticanus, No. 3773 (especially pp. 106-111): and for further information concerning Tlaloc and his Mayan prototype Chac to the same scholar's memoirs on the pictures of animals in the Mexican and Mayan manuscripts (1910).

The chief exploits of these gods, however, are so clearly portrayed in the pictures that there can be no doubt as to the nature and significance. In his monograph on *Maya Art*, Spinden says (p. 62) : " Schellhas, in his well-known paper on the ' Representation of Deities of the Maya Manuscripts,' calls the most common figure in the codices god B. He declares that this god is ' a universal deity to whom the most varied elements, natural phenomena and activities are subject.' Many authorities consider god B to represent Kukulkan, the Feathered Serpent, whose Aztec equivalent is Quetzalcoatl. Others identify him with Itzamna, the Serpent God of the East, or with Chac, the Rain God of the four quarters and the equivalent of Tlaloc of the Mexicans." From the point of view of the Indian analogies these confusions are significant, for analogous phenomena are to be noted in India, and especially in Java and Indo-China,

In the Dresden Codex the elephant-headed god B is represented in one place tightly grasping a serpent, in another issuing from a serpent's mouth, and in yet another provided with a serpent's body. In the Codex Tro-Cortesianus he is shown in relation to rain and growing maize, and in another place attached to the middle of a snake, the head of which is only another modification of the elephant's (see Spinden, *op. cit.*, pp. 62-66). On the Tablet of the Foliated Cross at Palenque, the elephant-god is represented emerging from a snail shell (*op. cit.*, pp. 83-84). Spinden states in reference to this drawing : " From the hands of this god issues a plant amid the

leaves of which is a face resembling that of the Maize God. The shell in this connection probably appears as an indication of water."

In addition to these records the elephant-headed god is frequently represented in hieroglyphic reliefs. With reference to these Spinden says (*op. cit.*, p. 82): "The hieroglyph for the month Kayab, in which the summer solstice falls, is explained by Foerstemann (1902) as the head of a tortoise, but it seems almost certain that this head represents the blue macaw, as may be seen by the spiral hook under the eye, the dotted circle around the eye, and the nasal opening at the upper part of the bill." From what has been said in the preceding pages it is clear that the elephant's head (which Spinden calls "a macaw") must be the hieroglyph for the month Kayab.

I shall now pass to the consideration of the attributes of the elephant-headed god, known among the Maya people as Chac, and among the Mexicans as Tlaloc.

In his *Mexican Archæology* Mr. Joyce has summarised a vast amount of literature relating to these matters. "In actual cult, at any rate as far as the Yucatec were concerned, the agricultural divinities were of primary importance. As in Mexico, the god of agriculture and rain was also the thunder-god; in Yucatan he was called Chac. . . . Like the Mexican Tlaloc, the Chac were supposed to carry axes, the weapon of the thunder-god, and were closely associated with the snake which throughout America is the symbol of rain. They have been identified, I think beyond doubt, with the figure, called

by Schellhas 'God B' of the manuscripts, a god who appears constantly on the monuments throughout the Maya region. Like Tlaloc he is shown with a long nose and tusks, the former of which on the buildings of Yucatan develops into a regular trunk" (*op. cit.*, pp. 120, 220).

With reference to the Mexican Tlaloc himself Joyce gives the following summary of the literature: "For the sedentary tribes of the valleys, dependent chiefly upon agriculture and fishing for a livelihood, the deities presiding over vegetation, rain and earth were the most important; and after the Aztec had become settled and devoted themselves to intensive cultivation, they readily adopted these gods and gave them a high place in their pantheon. Most important of all was Tlaloc, the god of rain and thunder; his worship appears to have been extremely widespread, and his images are found in numbers among the remains of pre-Aztec date at Teotihuacan (where he is the only god who can be identified with certainty), in the Huaxtec country, at Teotitlan, at Quiengola in the Zapotec district, and at Quen Santo in Guatemala. It is even related that when the Acolhua first arrived in the valley in the reign of the first Chichimec ruler Xolotl, they discovered on a mountain a figure of this god, which remained an honoured object of worship. Tlaloc is one of the most easily recognisable of the Mexican deities since he is represented with snakes twined about his eyes [for the remarkable representations of this see Seler's 'Codex Vaticanus,' Figs. 299-304], with long teeth and often a trunk-like nose." In my book, *The Evolution of the Dragon* (p. 86) I have called attention

to the fact that the prototype of this peculiar design survived in Siam until recent times. The mark of Ravana, a late surrogate of Indra in the *Ramayana*, is provided with a face composed of contorted snakes. "According to the legend Tlaloc was one of the first gods created, and lived in a kind of paradise, situated in the East, called Tlalocan, where he presided over the souls of the drowned and those who in life suffered from dropsical affections. He was supposed to be assisted in his duties by a number of subsidiary rain-gods, called Tlaloque, who distributed the rain from magical pitchers and caused the lightning by striking them with rods" (p. 36). "As the god of fertility maize belonged to him, though not altogether by right, for according to one legend he stole it after it had been discovered by other gods concealed in the heart of a mountain" (p. 37).

The god of India who is most commonly represented in the form of an elephant, Ganesa, clearly does not represent the prototype of Tlaloc. But Indra's attributes and achievements present so close a parallel, and in many respects so remarkable an identity, that it can be regarded as certain that this deity must have been the prototype of Chac of Yucatan and Tlaloc of Mexico.

Though Indra was not represented as an elephant he was usually associated with that animal. Professor E. W. Hopkins states that in India "most of the sects of to-day are of very recent date, though their principles are often of respectable antiquity, as are too their sectarian signs, as well as the animals of their gods, some of which appear to be totems of the wild tribes, while

others are merely objects of reverence among certain tribes. Thus the ram and the elephant are respectively the ancient beasts of Agni and Indra" (*Religions of India*, p. 445). If then, it is demonstrated that Tlaloc and Chac are merely American representatives of Indra, some element of confusion must have been introduced during or before the transit across the Pacific; instead of being merely associated with the elephant the god in America took on the form of the elephant.

Just as Tlaloc was "the most important of all the Mexican gods," being represented more than twice as often as any other god in the Maya codices, so Indra has been called the "king of the gods."

Sir George Birdwood (*The Industrial Arts of India*, Science and Art Handbooks, South Kensington Museum, 1880) tells us that "Indra, in the Puranic mythology, takes, after the *tri-murti*, the first place before all the other gods. He is worshipped at the beginning of every festival as one of the guardian deities of the world, and regent of the east quarter [just as the elephant-headed god was associated with the east in America]; and his annual festival, on the 14th of the lunar month Bhadra, is celebrated with the greatest rejoicing all over Bengal" (p. 64). "Indra's heaven was Swaga, on Mount Meru" (p. 65). [Tlaloc's residence was on mountain tops]. "The most remarkable celebration of Indra is in the unsectarian festival known in the Madras Presidency as the *Pongol* (i.e., "boiling"), which corresponds in date with one of the festivals of Surya, known in other parts of India as *Makar Sankranti*. It is held on the day the

PLATE 17.

Two figures of the Babylonian Antelope-Fish, that on the right as the vehicle of Marduk.

Nine figures of the earliest forms of Indian Makara, showing the cow, ram, lion, elephant, crocodile and other types of heads, the lowest one being a crocodile type with head suggestive of an elephant. This Makara is represented as the vehicle of Varuna.

PLATE 18.

The Elephant-Makara, from a mediæval Javanese design.

sun enters the sign of Makara (the *vahan*, or vehicle of Varuna, and ensign of Kama), on the first day of the month Magha (January-February), and is the greatest festival of the year in Southern India. . . . That the festival is primitive is shown by the fact that the Vedic deities alone are worshipped. Indra is the presiding deity, and Agni the main object of worship."

"At the moment the sun enters the sign of the Makara, the people go down to the sea, accompanied by the Brahmans, to bathe " (p. 66).

These quotations bring the worship of Indra into relationship with the mythical " crocodile " known as the makara, whose elephant-manifestation (Plate 17) had so marked an influence upon the manner of representation of the elephant in far distant regions, such as America and Scotland. It is instructive to note that this relationship was brought about in Southern India, which played the chief rôle in the maritime diffusion of Indian influence.

The makara manifests himself in an amazing variety of forms, some of which are interesting as links with the mythologies of countries remotely distant from India. In Burgess' edition of Gruenwedel's book[1] (p. 57), from which I have borrowed Plate 18, the sea-elephant representation is described as " a creature formed of the forepart of an elephant with the body and tail of a fish, which appears even on the reliefs of the Asoka railing at Buddhagaya, along with winged elephants and hippocampi."

[1] Albert Gruenwedel, *Buddhist Art in India*, trans. by Agnes C. Gibson; revised and enlarged by James Burgess, London, 1901.

The illustration reproduced as Plate 18 represents a very late type of elephant-makara, but it is one of particular interest for purposes of comparison with American designs, because the leaf-like appendage above the head, and the spiral below the ear possibly played some part in determining the form of the latter; and as this particular design was woven in a textile fabric it may afford some hint as to the means by which it was transferred across the Atlantic.

In the earliest types of makara, such as those shown in Plate 17 one can see the transference between the form assumed by the Babylonian composite monster and the Indian forms, and also realise how the elephant-headed variety was evolved from them.

"All the Greek elements found within the Asoka period, even counting the Sanchi monuments, follow throughout, as it were, in the steps of the west Asiatic forms. . . . Of more importance is the question whether the thunderbolt, as an attribute of the gods, was introduced by Greek influence, or whether the streaming sheaf of lightning-flashes of the Babylonian-Assyrian gods should be considered as the model; though the former seems to me the most probable, no certain proof is forthcoming." At this point it is important to emphasise the fact that the Mexican Tlaloc also was equipped with the thunderbolt and lightning, as well as with the axe of his prototypes in the Old World.

In his book, *Sanchi and its Remains* (London, 1892) General Maisey states: "As to the fish incarnation of Vishnu and Sakya Buddha and as to the Makara, Dragon

or Fish-lion, another form of which was the Naga of the waters, the use of this symbol by both Brahmans and Buddhists and their common use of the sacred barge are proofs of the connection between both forms of religion and the far older myths of Egypt and Assyria" (p. 59). Referring (same page) to the representation of Makara as a boat (Plate XXI) he cites the opinion of J. D. Cunningham that "it is a counterpart of the sacred boat of Egypt." Buddha himself has been compared to a boat—the sacred Makara, the Makieii of Chinese writers.

This aspect of the makara as a dragon or a naga serpent may possibly have played some part in the confusion of the elephant-headed god itself with the serpent, to which I have already called attention in America.[1]

Maisey's claim that the naga was another form of the makara is not quite accurate. If the divine serpent became confused with the mythical "crocodile" in the course of its diffusion to the Far East and America, it is important to remember that originally in India the naga (which, according to de Visser, was the real prototype of the Oriental dragon) was clearly differentiated from the makara, whose earliest form was a composite animal with the head and forepart of an antelope, goat, deer, or other horned animal, and the body and tail of a fish. It is quite possible that the spiral ornament on the side of the head of some makaras may be merely the ram's horn of a sheep-makara, a suggestion which will be more fully examined in the next chapter.

[1] See *The Evolution of the Dragon, Chap. II.*

Elsewhere Maisey states that the "Brahmanical fire-god Agni, one of the three primitive Vedic deities, has the water-vase and goat as his symbols, like the Egyptian Num or Nub, and the same symbols form the Indian zodiacal sign of the Makara, commonly called the sea-goat" (p. 21, note 1).

I have quoted these statements of Maisey's, not because they can be regarded as exact or authoritative, but because they suggest certain factors in the origin and diffusion of the symbolism and beliefs discussed in this book concerning which other writers have been more reticent. There are grounds for the belief that the ram-headed god of Elephantine in Egypt was the prototype of the ram-headed god of Sumer and Babylonia, who was reputed to have emerged from the Persian Gulf, and was therefore regarded as a fish and provided with a fish's body and tail. But the culture hero probably arrived at Sumer in a ram-headed ship, with which he was identified. The Babylonian capricorn, which came into being in this way, was the prototype of the Indian makara, which was both a composite monster and a ship. The custom of representing a human being in the makara's jaws is a survival of another phase of the symbolism involved in the identification of the culture-hero Ea (or Marduk) of Babylonia with a fish. He was often represented wearing a fish's skin, the head and jaws of the fish being shown above his own head.

In the curious blending of the attributes of Agni with those of Indra, another result of which perhaps is the acquisition by Indra's animal of the spiral horn of Agni's

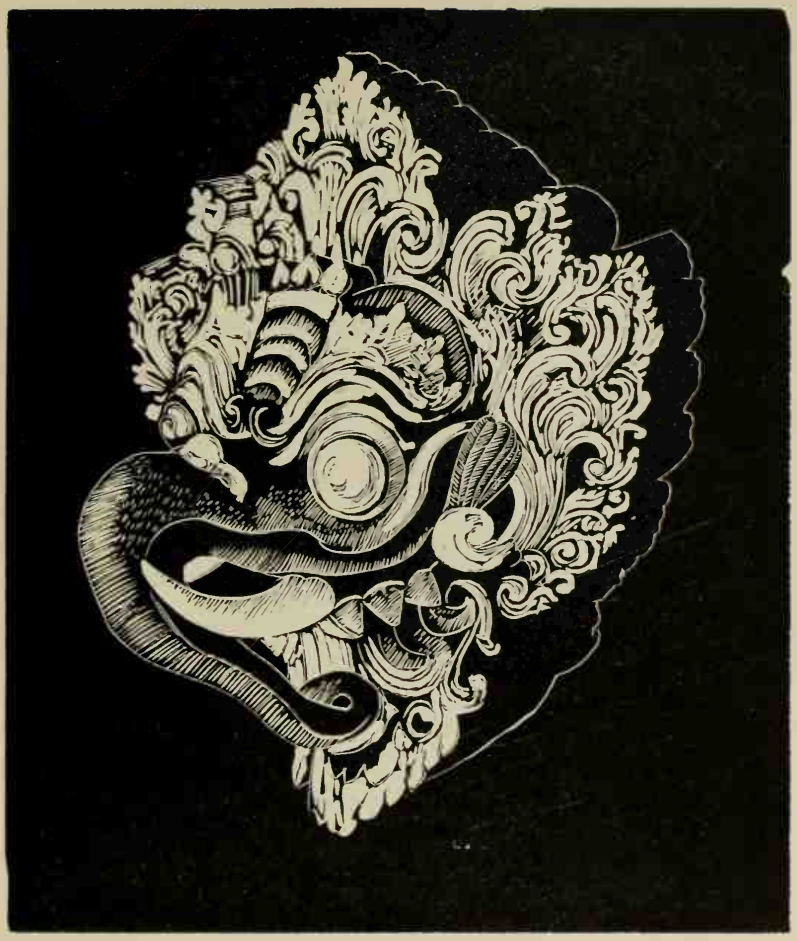


PLATE 19.

A Javanese Makara-form of a highly specialised elephant head and face of the Kirtimukha. (After Juynboll).

ram (see Plate 27, also Chapter IV), it is instructive to note the reference to the water-vase, so frequently associated with Tlaloc and Chac (Plate 16), the Mexican and Central American representatives of Indra.

The correct interpretation of the forms assumed by these Indian myths when planted in a far-distant and alien environment across the Pacific will be facilitated by comparison with their fate in the extreme west—in Denmark, Scandinavia and Scotland—during the same centuries as witnessed their appearance in America. It has already been seen that in these regions the Indian elephant was represented (Plate 31) with modifications due to the influence of the 'sea-elephant' form of makara.

" Byzantine coins which were struck in the fifth and sixth centuries A.D. indicate a new connection between the North and the Eastern Roman dominions, which had been Christianised long before ; by this means objects Christian in their origin and style pressed their way up to the heathen North."[1] Of the Scandinavian triad or divine trinity, Thor, the god of thunder, occupied the chief place ; and upon golden pendants of the Middle Iron Age from Denmark his emblem was two swastikas, Odin's the triskele, and the sun-god Frey's the cross. On old Gallic coins the triad is often represented by three heads joined in one, like Indra's elephants in the Cambodian relief (Plate 45). Elsewhere, particularly in Hungary, the " god of thunder is sometimes represented

[1] J. J. A. Worsaae, *Danish Arts* (Victoria and Albert Museum Art Handbooks), 1882, p. 46.

standing upon the back of a bull, which is decorated with a belt round its body (like Tlaloc and Chac in America), he holds a hammer in one hand, the lightning in the other, and over his head is the eagle ; sometimes he is seen driving in a chariot (like Thor in the North) drawn by two he-goats, and with lightning in his hand " (*op. cit.*, p. 50). Worsaae also refers to a pendant in which the great sea-serpent is represented " lying in the ocean which surrounds the world, and against which Thor waged such mortal strife " (p. 51).

It would lead me too far afield to discuss the significance of all the highly involved connections of these myths, and the details of the process by which they were derived from the same sources as the mythology of Rome, Greece and India. My sole object in calling attention to these traditions upon the uttermost fringe of Europe, the origins of which are generally accepted, is to emphasise the argument that essentially the same stories, in many respects revealing more precise and definite indications of their Indian origin, are represented in the contemporary pre-Columbian codices of America.

The highly involved and almost inextricably confused state of these legends in the Old World was apparently still further increased in America. Already in India the attributes of various deities, and especially Indra, Agni and Surya became so extended as to overlap one another. But in addition the story of Ganesa, whose head was replaced by that of Indra's elephant, seems to have been confused with Indra's history. For in America (where beasts of burden were not known) the god of

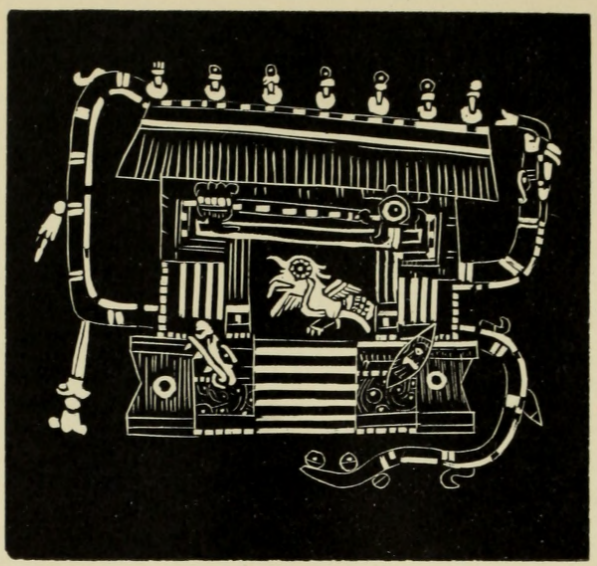


PLATE 20.

The Aztec Rain God as a highly conventionalised drawing of an elephant transmuted into a turkey-cock, standing under a canopy that is suggestive of the regal stands familiar in ancient Egyptian and Babylonian pictures. (From the Vatican Codex, after Seler).

rain and thunder no longer rode upon the elephant, but became elephant-headed like Ganesa, which has been a source of confusion to ethnologists from the time of von Humboldt onwards.

I have already called attention to the confusion of the elephant with the macaw, possibly by ancient as well as modern Americans. But the macaw was not the only bird for which the elephant was mistaken. The pictures which I have reproduced as Plates 15 and 16 are perhaps the most successful portraits of the elephant in the American codices. As a rule the drawings became grotesque caricatures; and when the "eyes" were represented as they were in the Copan monument (Plate 2), it is not surprising that the pictures came to be mistaken for drawings of cock-turkeys with pendant wattles (Plate 20).

Such is the explanation that naturally suggests itself to me, when Seler tells us that "the turkey is the bird of Tlaloc, the Rain God, who appears in the disguise of this bird" (*Codex Vaticanus*, p. 75). "Hence the turkey symbolises rain." Apparently the modern Indians followed their predecessors and perpetuated this confusion, for Seler adds that "it is a very noteworthy fact that also among the Pueblo Indians, the Zuni and the Hopi, the turkey has the same meaning."

Other remnants of the old Indra legends have persisted among the modern American tribes. In his book, *The Religions of India*, Hopkins gives a detailed summary of the remarkable identities revealed in the beliefs of the Five Nations of the Iroquois, and those of the Five Nations

of the Veda, although he resolutely refuses to admit that the former were derived from the latter (pp. 161-165). In the course of this striking comparison (concerning the true significance of which only the most inveterate prejudice could arouse any doubt) he states that "the Iroquois, like the Hindu, believe that the earth rests upon the back of a turtle or tortoise, and that this is ruled over by the sun and moon, the first being a good spirit; the second, malignant. The good spirit interposes between the malice of the moon and mankind, and it is he who makes rivers; for when the earth was parched, all the water being held back under the armpit of a monster frog, he pierced the armpit and let out the water (just as Indra lets out the water held back by the demon)" (p. 163). The confusion between the rain-god and the sun is common, both in India and America. The frog often figures in America in relation to rain in the same way as the serpent (see Seler, 1910, p. 83), which explains his rôle in the Iroquois myth.

In this account I have so far been dealing exclusively with the demonstration of the fact that the essential part of the complex and distinctive mythology centred around Indra was transported across the Pacific, where, in the New World, among an alien people, it took root and flourished, no doubt with many modifications and additions for which the American environment was responsible.

But it must not be supposed that it was only the Indra-element of the Hindu pantheon that was taken across the ocean. From the nature of the case it was

PLATE 21.

Cambodian Makara, showing the transformation of the rhinoceros-like horn into an elephant's trunk. (From the "Bulletin de l'Ecole Française de Extreme Orient, 1920").

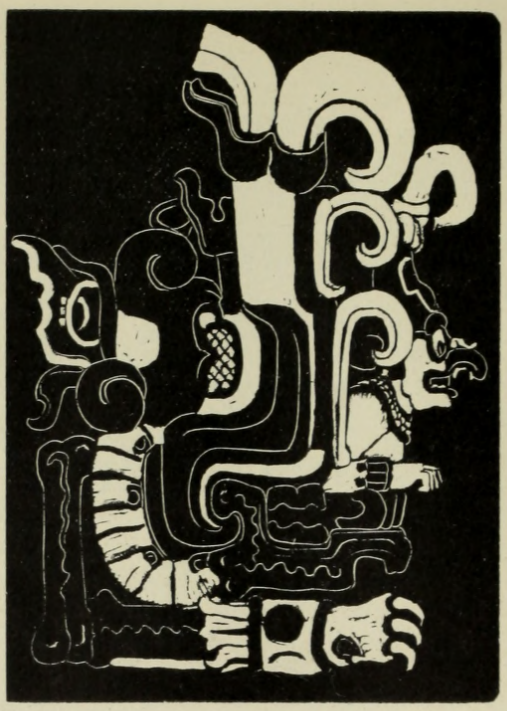


PLATE 22.

Head of so-called "serpent" from Cental America: probably a conventionalised form of the Indian elephant form of Makara, as also is the figure emerging from the mouth. (After Maudslay).

impossible that such a thing could have happened. For, by the time the cultural migration took place the story of Indra was so completely intertwined with that of most of the other deities as to make it impossible to dissociate it from the rest of the pantheon.

Mr. Wilfrid Jackson has called attention[1] to the adoption in America of the curious myths associated with the Indian moon-god, and the sacred conch-shell, as well as certain other very remarkable stories. Von Humboldt in 1813 was very much impressed by the similarities between the religions of Mexico and Peru on the one hand and India upon the other. The Central American representations of the snake cut into pieces seemed to him to have been an adaptation of the Indian serpent Kaliya, which was overcome by Vishnu, disguised as Krishna. Krishna himself, he considers to be represented in Mexico by Tonatiuh.

A summary of other comparisons between the American and Indian mythologies is given by Bancroft (*op. cit.*, Vol. V, pp. 39-50).

[1] *Shells as Evidence of the Migration of Early Culture.*

CHAPTER III

The Makara

ONE of the most distinctive creations of civilisation is the composite wonder beast, of which the dragon is the best-known variety. The forms it assumes in graphic art are as protean as its adventures in myth: but both the anatomical features and the mythical experiences of the dragon in the Old World are so peculiarly devised that there is no doubt as to the common ancestry of all dragons, even if we recognise that in each region where they occur the wonder-beast has his distinctive traits of character. Thus the study of the American dragon affords evidence of very precise significance as to the scources of the civilisation of the New World.

I need not attempt to discuss in detail here the complicated history of the dragon's evolution in the home of the ancient civilisations or the process of its diffusion throughout so large a part of the world, because I have already devoted a volume[1] to this subject, and have called attention to the very remarkable features of the pottery figure of an American dragon[2], or, perhaps it would be more accurate to call it a makara, from Northern Honduras.

[1] *The Evolution of the Dragon*, 1919.

[2] An American Dragon, *Man*, November, 1918, p. 161.

PLATE 23.

A series of Indian and Javanese Makaras to illustrate stages in the conventionalisation of the upper jaw that culminates in the American so-called serpent.

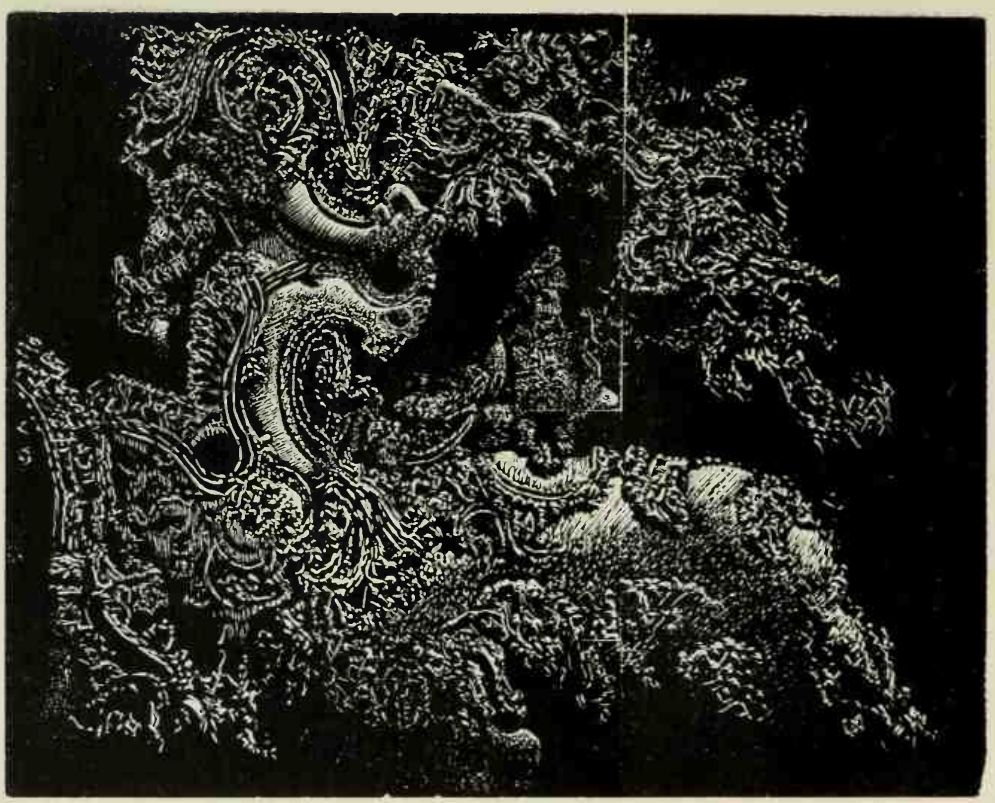


PLATE 24.

Makara, from Mysore, showing serpent form of upper jaw.

But the evidence provided by these plastic representations of the dragon and by the myths associated with them affords so definite and conclusive a demonstration of the diffusion of culture that I must mention certain features of this information.

The particular representation of the Maya dragon or makara, which I described in 1918, is one of a large series of pottery vessels in the Liverpool Free Public Museums, many of which have been described by Mr. Thomas Gann.[1] As in Eastern Asia these mythical creatures assume a variety of forms, crocodile, shark, turtle or tiger being respectively the obtrusive ingredient in the composite animal in different specimens. In Japan the dragon is identified with the *wani*, which may be a shark or a crocodile, and the same forms are common in Melanesia and Central America.[2] But the mythical crocodile, known in India as the makara, is the commonest form of the composite monster ; and we know from studying the history of this so-called crocodile that it was originally a composite animal (*Capricorn*) with the head of a ram, goat, antelope or deer of some sort, and the body of a fish. This creature was both the personification and the vehicle of Marduk in Babylonia, and of Varuna and Ganga in India. In Indonesia and Japan again the culture hero was represented at various times either as the dragon (*wani*), or as clothed in the dragon's skin (his head emerging from the dragon's mouth), or again as

[1] Mounds in Northern Honduras, *Nineteenth Annual Report, Bureau of American Ethnology* (1897-98), Part II, Washington, 1900, p. 661.

[2] For the bibliographical references see *The Evolution of the Dragon*, p. 158, note 1.

riding upon the dragon's back. All these varied forms occur in Central America.[1] The Honduras pot, which I described in 1918, consists of the mythical crocodile called *Imix* by the Maya people (*Cipactli* by the Aztecs) furnished with the horns and the spots of a deer, and the rain-god's head is seen between the dragon's jaws. Seler has called attention[2] to a representation of *Cipactli*, in the Codex Fejervary Mayer, as a crocodile acting as the vehicle of Tlaloc, just as de Visser has recorded in Japanese and Indonesian stories, and as we have seen also in India (Varuna) and Babylonia (Marduk).

Among the Maya people the chief mythological animal is a dragon-like monster, which, according to Mr. Joyce, "bears a distinct resemblance to the Mexican cipactli animal,"[3] which is the mythical crocodile of the Aztecs. There is no doubt that it does represent one of the forms of that wonder-beast, although the "inordinately long upper jaw," and especially the two maculae in its under surface, as it is portrayed in the stone-carving from Copan, belong to the elephant's trunk of Chac (compare Plate 2). The correctness of this identification is rendered more certain by the fact that the god whose head protrudes between the widely opened jaws is sometimes recognisable as Chac; and it is customary in such incidents as this sculpture represents

[1] Seler, *Zeitschrift für Ethnologie*, Bd. 42, 1910, p. 31. Fig, 677 on p. 35 is peculiarly instructive. It is the drawing of a mythical "crocodile" from the Dresden Codex, representing a makara of Indonesian type with the conventionalised elephant's trunk. A human face protrudes between the jaws.

[2] *op. cit.*, p. 33, Fig. 670.

[3] *Mexican Archæology*, p. 233.

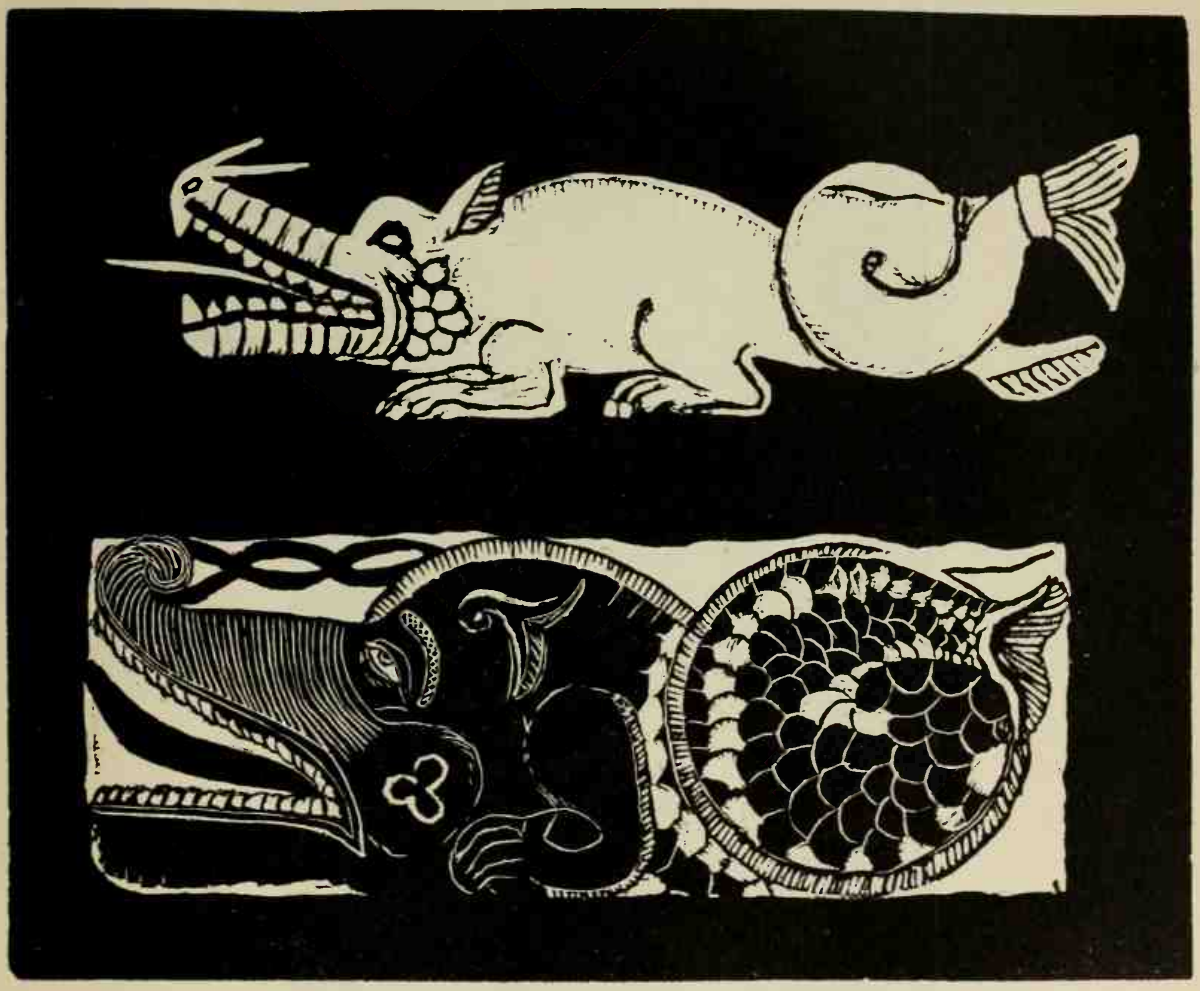


PLATE 25.

Two early Indian Makaras, with spirally coiled tails. The upper one is of interest from the presence of the design behind the angle of the mouth adopted in the American Copan elephants, and also for the curious pair of appendages on the snout to which Gordon calls particular attention in "American Dragons." The lower figure is of value as showing the early stages of the transformation of the upper jaw before it took on the form of an elephant's trunk.

PLATE 26.

Figure from British Honduras, now in the Liverpool Free Public Museums, showing a god in the form of an elephant, secondarily anthropomorphised, and having a serpent helmet.

for both the covering and the contained figure to symbolise the same deity, as I have explained elsewhere (*Man*, 1918, p. 161) in discussing another Maya representation of a crocodile-like monster. One can more readily see some sort of meaning in this reference to an elephant's head on a "crocodile" if the symbolism of the Asiatic wonder-beasts be compared with their American homologues. For the Mexican cipactli (the Maya imix) is merely an American variant of the Indian makara, or the Japanese wani, and any of these mythical creatures in the New World can bear the head of an elephant or the antlers of a deer, like its Indian or Japanese prototypes respectively. As in the Old World also the body of the cipactli can be represented as that of a snake or of a fish. Mr. Joyce refers to a Mexican tradition that the earth was created from the primordial cipactli; but this is no adequate reason for calling the mythical animal "an earth-monster." In Babylonian myth the earth was made from the split carcase of the dragon Tiamat; yet this mythical wonder-beast is not the earth, but the Great Deep. Just as this event in Mesopotamia marks the creation of the world, so in Mexican belief the cipactli is the first day, the day of creation.

When in 1918 I put forward the suggestion that the mythical crocodile of the New World was identical with that of the Old, the Indian makara, and that the latter was the antelope-fish of the zodiac, I overlooked the circumstance that more than a century earlier von Humboldt had demonstrated the truth of these

homologies.[1] The Mexican sign for cipactli he describes (p. 14), as a fabulous animal, a cetacean (whose forehead is armed with a horn) so that Gomora and Torquemada supposed it to be a narwhal.[2] But von Humboldt rightly points out that it is not a real animal and therefore its form is very variable. He mentions its common representation as a crocodile and its identity with the tenth sign of the Indian zodiac, our capricorn. Further, he calls special attention to one variety of cipactli in which the so-called horn of the whale-like type is replaced by a prolongation of the snout, that is the form which I have compared to the elephant-fish type of Indian makara. His comparison of the analogies of the Mexican use of this sign to the association of the Indian makara with one of the lunar mansions or nakshatras, is valuable confirmation of the reality of the identity of the cipactli with the makara, and leaves no room for doubt that the former was actually derived from the former.

In the Annual Report for 1903-4 of the Archæological Survey of India, Mr. Henry Cousens has made a collection of reproductions of the makara and given a brief account of its use in Hindu ornament. Much work on the subject has been done since his memoir was written, but I shall quote some of his statements as an introduction to the discussion :

[1] *Vues des Cordillères et Monumens des Peuples indigènes de l'Amérique*, Paris, 1813, I-II, p. 16. He uses the phrase with reference to the makara, which he calls the Capricorn of the Hindoos, a fabulous fish represented as a marine monster with the head of a gazelle.

[2] There is a Maya myth relating to a whale form of Makara, *Proc. Internat. Congress of Americanists*, 1912, p. 164.

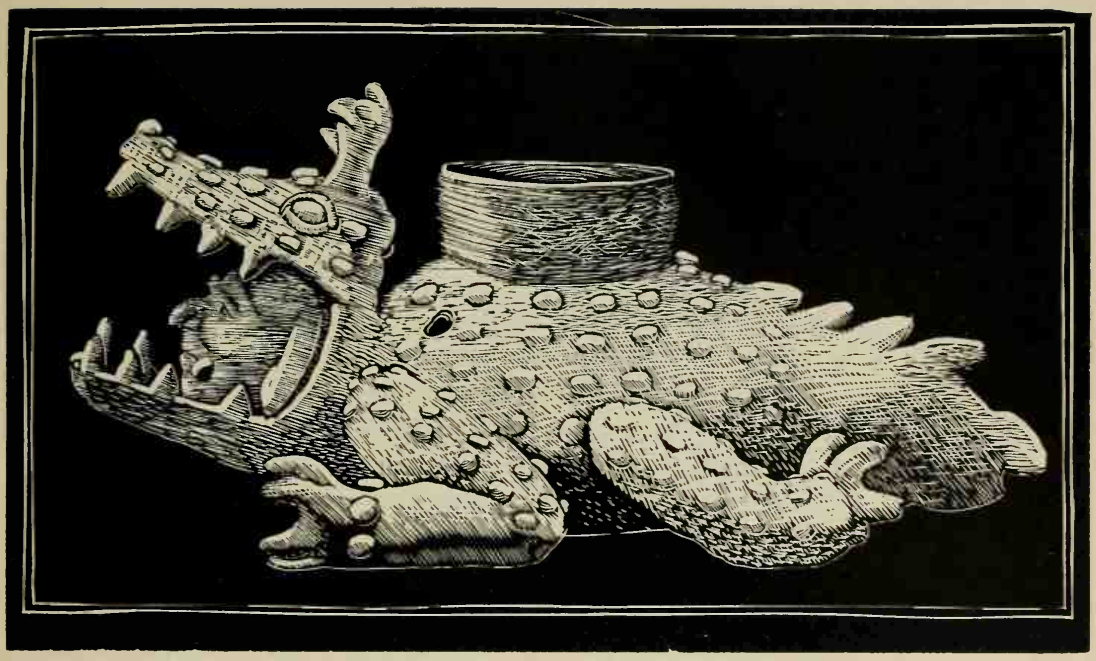


PLATE 27.

Maya pot, shaped in the form of a Crocodile-Makara, with thelspots and antlers of a deer. (Liverpool Free Public Museums).

"One of the most frequently occurring decorative forms upon mediæval Hindu temples, and more especially in the Chalukyan work of the Kanarese districts, is the very conventional and highly ornate *makara*. . . .

"The *makara*, as here portrayed, with its florid tail, is the most usual representation of the animal in mediæval work, but there are variants. The *makara* is, however, found in more ancient work, from the time of Asoka down to the later caves; but the earlier fish-like forms are very different from those of later times, and, were it not that those early ones fulfil the same *raison d'etre* in decorative details, we might almost fail to see the connection between the one and the other.

"All animals that we meet with in old Hindu ornament are, save this creature, more or less true to life and recognisable. It is noticeable that the more rare an animal, the less true is its delineation, and the greater the liberties taken by the artist in its portrayal. This was no doubt due to the rarer animals being less available as models, and less often seen, if seen at all. . . . The *makara*, whatever its origin, was to him what the dragon was to old European artists—a mythical beast, with some general characteristics and a generally accepted form, the details of which could be worked out as the fancy of the artist suggested. The lion, for instance, is far less true to life than the homely, domesticated elephant or bull, and often it is difficult to tell whether a certain form is intended for that animal or a tiger. . . .

"As to the prototype of the mediæval *makara* it is not easy to fix it. The word *makara* ('magar' or

'mugger') usually signifies an alligator or crocodile, but the *makara*, as represented, does not suggest either of these animals. In the earliest examples, such as those at Mahabodhi, Bharhut, and Sanchi, we find a two or four-footed beast with a fish's tail, a crocodile's head and snout, loose flapping ears, and the body in some cases partly covered with scales. Here the tail has been the weakest part. The artist clearly intended to represent the crocodile, but he was not so sure about the tail, which, when the animal was seen, was, more often than not, obscured by trailing in mud and water. . . . Of all animals approximating to this mediæval delineation, the rhinocerous and tapir are the nearest. The former has been, and still is, a native of India, but whether the tapir ever was, I have been unable to ascertain. The nearest spot where it is found at present is Sumatra and Java, where the *makara* is used on the Boro Budur monument.

"It is easy to understand how the prehensile upper lip of the earlier makara became, in a country of elephants, stretched still further into the longer trunk. . . .

"The dictionaries define the *makara* as 'A kind of sea monster, confounded with the crocodile, shark, dolphin, etc. (properly a fabulous animal regarded as the emblem of Kama deva).' . . . 'Name of a mythical fish or sea monster.' . . . 'An aquatic monster, understood usually of the alligator, crocodile, shark, but properly a fabulous animal—as a fish it might be conjectured to be the horned shark, or unicorn fish.'

"There are references to the *makara* in Hindu literature.

"The makara is used as one of the Hindu signs of the zodiac, namely that for capricornus. It is the cognisance of Puspadanta, the ninth tirthankara of the Jainas. The banner of Kamadeva is known as the *makaradhvaja* or *minadhvaja*, *mina* meaning a fish; and the vehicle of Varuna, the god of the waters, is the *makara*. He is represented riding upon it in those richly sculptured *astadikpala* ceilings where he holds the post of Regent of the West. A favourite shaped earring is called a *makarakindalain*, and is shown as worn in the left, or Vaisnava, ear of statues of the dual god Harihara; the right, or Saiva, ear having a *naga* earring called a *nagendra-kundalam*. These are the customary earrings worn by these two gods. Each river goddess has her favourite animal, that of Ganga being the *makara*."

In his interesting memoir on "The River Goddess Ganga,"[1] Mr. Akshay Kumar Maitra has collected the more recent literature, especially with reference to the makara as the vehicle of a deity.

The representations of the makara in ancient and mediæval sculpture in India and Indo-China shed much light upon the designs we are trying to interpret in America. Take, for example, the form sculptured at Asoli in the sixth century. The scaly monster is equipped with an elephant's trunk. It has a series of tubercles around the eye that suggest the conventional pattern found in the Copan sculpture and the leaf-like appendages

[1] *Rupam*, April, 1921, p. 2.

on the top of the head provide another close analogy. The human figure emerging from the mouth and the spiral ornament below the angle of the mouth are also not without interest (Plate 1).

The Cambodian makara shown in Plate 21 has a snout that seems to have been modelled after the fashion of a rhinoceros, but in the process cf conventionalisation the horn of the rhinoceros seems to have been transformed into an elephant's trunk. Another model from Mysore reveals the amazing complexity which the ornate embellishment of the mythical monster can attain. The upper jaw is of special interest because it reveals the source of the distinctive form assumed by the so-called " serpent's " upper jaw in American monuments. The peculiarities of the conventional serpent's head in Maya art, to which Maudslay, Gordon and Spinden, among others, have called particular attention, become intelligible when one recognises that it is based upon the makara-forms of Asia, which may become transmuted into an elephant or a serpent.

One example will serve to illustrate the value of such comparisons. Discussing what he calls the " serpent motive " in ancient American art, Dr. Gordon[1] refers to the difficulty in explaining " the two curious processes protruding from the nostrils like a pair of horns," and adds : " These are the essential features [of the ' serpent design '] to be borne in mind." The Indian makara also (see especially Plate 25) is sometimes equipped with a pair

[1] *Transactions of the Department of Archæology*, Free Museum of Science and Art, Philadelphia, Vol. I, 1905, p. 138.

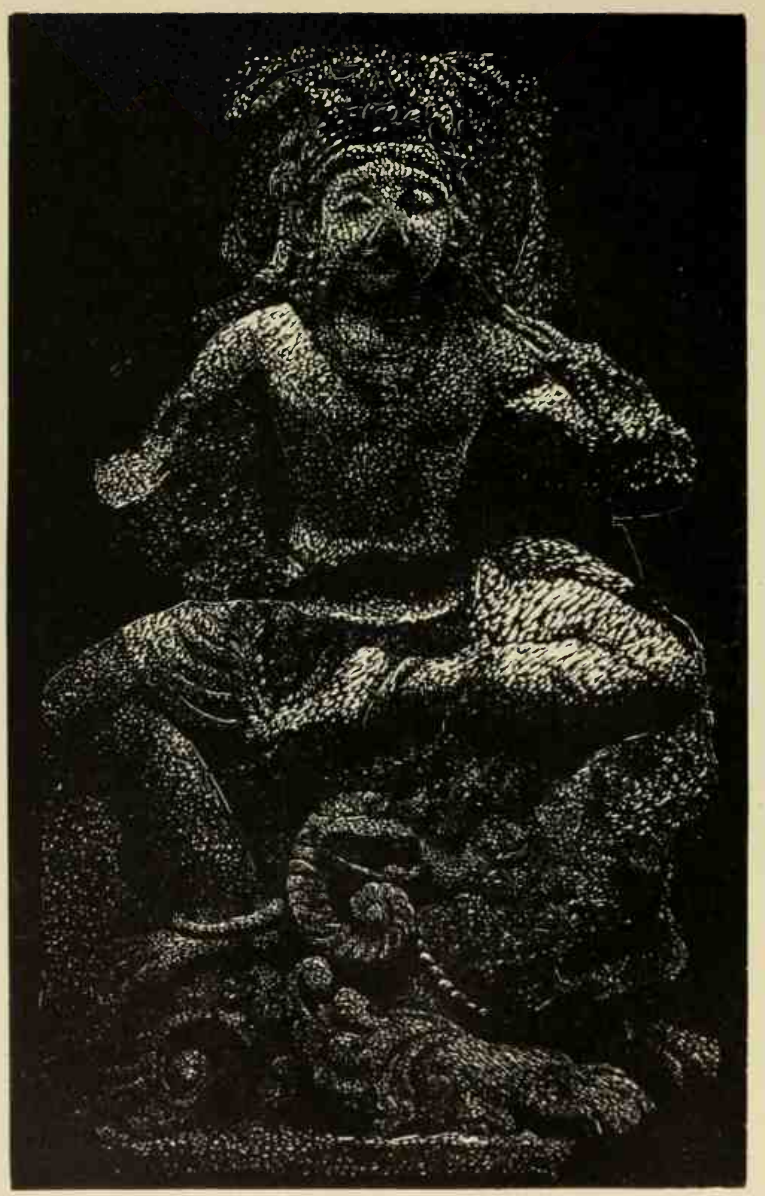


PLATE 28.

Varuna seated on the Makara, which has the spiral ram's horn on the side of the head. (After Professor B. C. Bhattacharya, "Indian Images," 1921)

of horns near the nostril and comparison with its Babylonian prototype suggests their derivation as displaced antelope's horns.

In Professor Bringavan C. Bhattacharya's valuable work on *Indian Images* (Part I *The Brahmanic Iconography*, 1921, Plate XVIII) there is a photograph of a sculpture from Kāngrā State representing Varuna with the makara as a vehicle. The special interest of this carving, apart from the artistic excellence of the modelling, is afforded by the makara. Unfortunately its snout is now badly damaged, but enough remains to suggest that it may have conformed to the proboscidean type, and the wonder beast is provided with a large spirally curved ram's horn (Plate 28).

According to the Agni-Purana Varuna's vehicle is a crocodile (in other words a makara), while the Matsya-Purana makes it a deer (*op. cit.*, *Indian Images*, p. 28). In the American pot from British Honduras, now in the Liverpool Museum, to which I have already referred, both Indian conceptions are combined in the same model, a crocodile form of makara provided with a deer's spots and antlers (Plate 28).

When one recalls the fact that the chief incentive which impelled men to roam out into the Pacific and eventually led them to America, was the search for pearls and pearl-shell, the full significance of the prominence of the Varuna associations in America will be realised. For Varuna was the god of water and ocean ; he wore a necklace of pearls, carried a conch-shell and a lotus, and was, according to Professor Bhattacharya, equipped with a net or rope such as is used by pearl-fishers.

The Jonah Incident

Nowhere is the derivation of American culture from Asia more obtrusively displayed than in the representation of men or gods emerging from the gaping mouth of some mythical monster analogous to the naga or makara of the Old World. In his monograph entited *A Study of Maya Art* (1913), Dr. Herbert J. Spinden seems to imagine that this incident, which plays so prominent a part in the mythology of the Old World, and is familiar to everyone in the Biblical story of Jonah, was an invention of the Maya people of Central America ! Discussing the final stage of the evolution of the divine serpent, a human head was placed in the wide open jaws, concerning which he makes the surprising comment that " this later addition is perhaps the most striking and original feature of Maya Art " (p. 35). But if Dr. Spinden had made himself familiar with the symbolism of early Asiatic art, he would have found that instead of being an " original " feature of American art, the Jonah incident was one of the clearest demonstrations of the influence of Eastern Asiatic culture in America.

I have given several illustrations (Plates 1, 11, 38) of Asiatic methods of representing this very distinctive incident, which is common to the mythology of the world at large, but it would take a large volume to enumerate all the references to it in literature and folk lore. Professor de Visser, who insists upon the identification of the Chinese and Japanese dragon with the Indian

PLATE 29.

Figure from a stone lintel at Menche. Note the elephant-form on the front of the feathered serpent head-dress (immediately above the forehead). After Maudslay, Vol. IV, Plate 93.

PLATE 30.

An early example of an Indian Elephant-Makara and (below) portion of a frieze at the Temple of Melea, Cambodia, showing the Elephant-Makara as the vehicle of a god. (After Delaporte).

naga or serpent, emphasised the fact that the representation of a human head emerging from a dragon's jaws is an Indian motive, which was transferred to China, thence to Korea and Japan.[1] But it is equally certain that it was also carried across the Pacific to America where it became "the most striking," though not original, "feature of Maya Art."

In the article[2] on the pot from Honduras, to which reference has already been made in this chapter, I called attention to the fact that although the distinctive form in which this episode is represented in Eastern Asia and America may be Indian, India herself got the idea from the west, and especially from Babylonia, where the god Ea was portrayed wearing a fish's skin. My chief purpose in that article, however, was to emphasise the fact that the deer-fish type of monster, which is so distinctive an invention of Babylonian ingenuity, also made its appearance in America, and, like its makara form in India, Indonesia and Eastern Asia, played a rôle analogous to that of the mythical serpent in providing a characteristic dress for the man or god whose head protrudes between its jaws. One is the less surprised at this exchange of rôles on the part of the naga and the makara in America, when one finds the same thing happening in Asia. In fact it is not uncommon to find the mythical capricorn or crocodile (*makara*) equipped with a serpent's head as an inappropriate appendage of its upper jaw. It has already been

[1] M. W. de Visser, The Dragon in China and Japan, *Verhandelingen der Koninklijke Akademie van Wetenschappen te Amsterdam*, Afdeeling Letterkunde, Deel. XIII, No. 2, 1913, p. 142.

[2] "An American Dragon," *Man*, November, 1918, p. 161.

suggested (p. 60) that the symbolism expressed in these composite fish-animals is probably the expression of a definite historical event, the first coming of a sea-going ship upon the waters of the Persian Gulf. For reasons which I have explained elsewhere[1] the germs of Sumerian culture were probably brought to the head of the Persian Gulf mainly by seafarers; and the sudden appearance of a sea-going ship no doubt created in the minds of the Sumerians ideas analogous to those which Christopher Columbus's ships suggested to the Caribbean Islanders. The culture-bringers were identified with their vessel and regarded as strange marine monsters, or as beings who emerged from the interior of such "creatures." Among the Babylonians, as has been explained earlier in this account, the culture hero Ea was said to have come out of the waters of the Persian Gulf and was depicted either as a fish or as a man wearing a fish-skin. So persistent was this belief that when the Babylonian story of the flood spread to India, the ship was identified with the fish, as another form of the "Womb of Sheol," in which the seeds of life were preserved to produce the new creation.[2]

Ea wore the fish-skin to symbolise his identification with the fish who came out of the sea; but he was also represented as his own animal (antelope, deer, ram, or goat) with a fish's body and tail. Thus the god clad in the skin of a fish is only another form of the composite animal or capricorn, which in India became known as the makara and was often supposed to be a crocodile. The

[1] Article *Anthropology*, in the *Encyclopædia Britannica*, 1922.

[2] William Simpson, *The Jonah Legend*, 1899, p. 127.

same mythical creature appears in Eastern Asia (the wani of Japanese writers) and in America (the cipactli of the Aztecs).

The account of the fish-god of Babylonia given by Berosus has been preserved in the writings of Alexander Polyhistor. It tells how at the beginning of Babylonian history there emerged from the Erythræan Sea an animal endowed with reason called Oannes. According to Apollodorus, its body was like that of a fish ; but under the fish's head there was another head, and it also had feet like those of a man. His voice and language were articulate and human. He introduced civilisation into Babylonia.

The gospel of the Indian *Matsya Purâna* is reported (in that book itself) to have been given to Manu by a god in the form of a fish. So also in the *Bhâgavata Purâna*, Vishnu, in the form of a fish, declared the truth to Manu (there called Satgarrata), or after the deluge restored to him the Vedas containing all truth and knowledge. In the late pictures of the Matsya Avatar, Vishnu is represented coming, like Jonah, out of the fish's mouth. In one of his hands he holds the sacred writings. To illustrate the westerly diffusion of such ideas one might refer to the Hibbert Lectures given by the late Sir John Rhys, in which he describes the *Eo Feasa*, the Celtic "Salmon of Knowledge." Whoever ate of this fish acquired all knowledge, as Manu did from his fish.

The identification of the ship which carried the culture-hero with a fish, started a far-reaching series of events. The ship became a living form of the god and

when the goat-fish or capricorn became his symbol, there also emerged goat-prowed—or ram-prowed—forms of boat, as well as makara-boats and dragon-boats. The ram-headed boat is familiar not only in ancient Egyptian records and Indian pictures, and in the Early Bronze Age sculptures in Scandinavia, but also in the modern boats of East Africa[1].

The custom of modelling the bow of a boat in the form of the sacred crocodile is still practised in Borneo and elsewhere in the Malay Archipelago; and at times a monkey-like figure is represented between the crocodile's jaws (Hose and McDougall, *The Pagan Tribes of Borneo*, vol. II, p. 238). Dr. Hose tells me that in Sarawak the corpse is always carried to the grave in such a long boat, which is supposed to ensure its safe conduct to the home of the dead.

The crocodile may be carved on coffins, graves or the stands upon which the coffin is placed. Among some tribes the whole coffin is shaped in the form of a crocodile or naga (dragon).

Dead chiefs may be deified and become incarnate in the form of a crocodile.

The sacred crocodile plays a most important part in every phase of activity in Borneo. It is a water-god and all life-giving ceremonies are intimately associated with it.

The highly conventionalised forms of this modern makara of Borneo are at times confused with or mistaken for dogs.

[1] G. Elliot Smith, *The Ancient Egyptians*, 2nd Edn., 1923, p. 197.

The Celestial Dog

In the Maya codices one of the mythological animals often represented is a dog hanging down from the sky bearing in its forepaws lightning or the conventional thunder-weapon. Dr. Paul Schellhas refers to the dog as the lightning-beast and says it " belongs to the death-god."[1] I refer to this curious symbolism here, for two reasons. In the first place it is clearly derived from the Celestial Dog of the Old World, more especially the variant found described in the Chinese literature collected (largely from de Groot's writings) by Professor M. W. de Visser in his memoir on the Japanese *Tengu*.[2] Secondly, in the Dresden Codex the rain-god B is shown holding this dog by the tail, thus bringing into close association the elephant and the dog of the Old World. In the American pictures the celestial dog is shown coming down from the sky with the flaming thunder-weapons ; whereas in the Chinese books descriptions are found of the descent of the dog as a flaming fire accompanied by thunder. The former is said to " belong to the death-god " (Schellhas), whereas the latter is " brought into connection with war and death " (de Visser). It was in fact identified with a comet which had the same reputation in the Far East, as was associated with it in Western Europe.

This conception of the celestial dog was flourishing in China and Honduras respectively in the same early

[1] Representation of Deities of the Maya Manuscripts, *Papers of the Peabody Museum of American Archæology and Ethnology*, Harvard University, Vol. IV, No. 1, 1904, p. 43.

[2] *Transactions of the Asiatic Society of Japan*, Vol. XXXVI, Part II, 1908, pp. 25-28.

centuries of the Christian era. It is not without significance to recall that more than twenty centuries before the time of the identical myths of China and America just mentioned, the Egyptians had a god in the form of a dog, who was intimately associated with the god of the dead, if he was not also himself regarded as a god of the dead,[1] "who was made to descend from the sky to embalm Osiris" (quoted by Breasted from a Coffin Text of the Middle Kingdom). Concerning this reference Professor Breasted states that on the death of Osiris "the Sun-god is moved with pity and despatches the ancient mortuary god Anubis, lord of the Nether World, to whom the westerners (the dead) give praise, him who was in the middle of the mid-heaven, fourth of the sons of Re" (*op. cit.*, p. 27).

In view of the intimate connection of Anubis with embalming it is interesting to note that in the earliest Chinese story (A.D.539) of the celestial dog recorded by de Groot, it is reputed to have descended from the sky and that the Son of Heaven took livers out of men to feed it (see de Visser, *op. cit.*, p. 27).

I want especially to call attention to the close association in Egypt of the dog-headed god with Osiris, who is the real prototype of the elephant-headed god of America.

But there are reasons for believing that the long-nosed Tengu of Japan was originally an eagle or kite identified with the Indian Garuda, and confused both with the elephant-headed Ganesa and the celestial dog—a series of unexpected zoological *avatars* of peculiar significance for the interpretation of the Maya symbolism in America.

[1] As Professor Breasted claims, *Religion and Thought in Ancient Egypt*, 1912, p. 27.

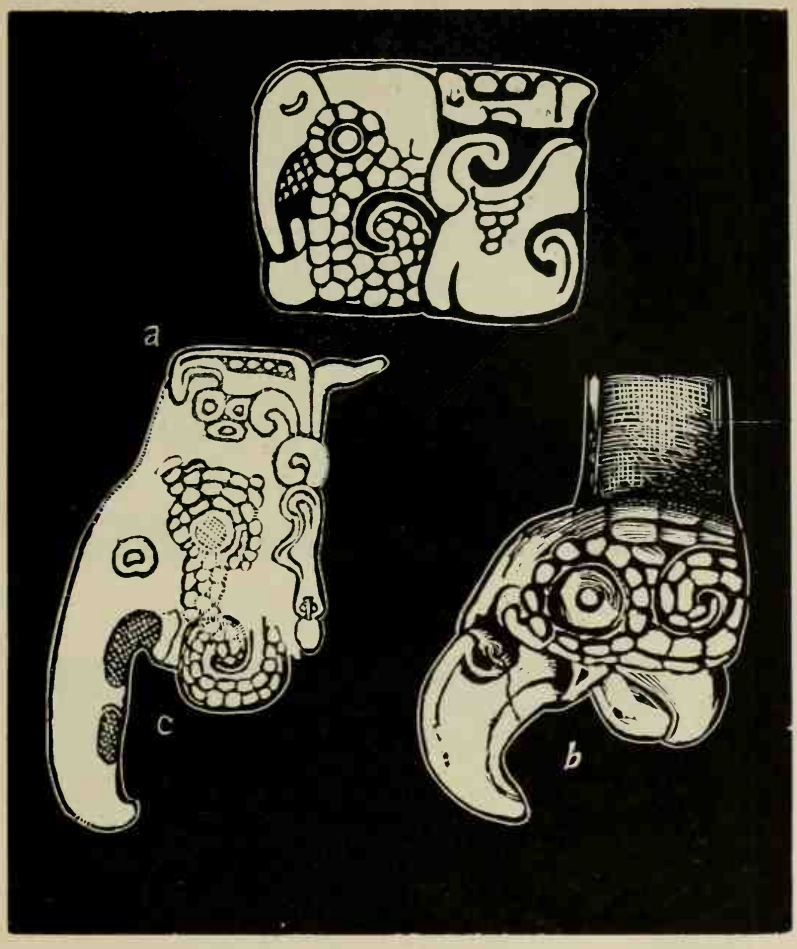


PLATE 31.

Three figures selected by Dr. Spinden for the purpose of suggesting that the Copan elephant head (c) was to be identified with the head of the macaw shown in (b).

(a) The elephant-glyph from Stela B, claimed to be the macaw.

(b) The real Blue Macaw, sculptured on one of the Copan monuments.

(c) The crudest of the four elephant profiles on Stela B.

PLATE 32.

Sculptures from Stela D, Copan, to demonstrate the contrast in the mode of representation of the real macaw and the elephant, or pseudo-macaw, by the same sculptor. (After Maudslay).

CHAPTER IV

The Spiral Ornament

IN the discussion of the meaning of the designs on the upper corners of stela B at Copan, Professor Tozzer and Dr. Spinden refer to the spiral ornament below the "eye" as the chief element of corroboration of their interpretation of the sculptured creatures as macaws. Hence it is important to examine the evidence; and so as to present their argument with fairness and impartiality I have reproduced here (Plate 31) the three figures used by Spinden in illustration of the claims he is putting forward. The drawing at the top is a glyph from stela B; the figure labelled *b* is the representation of an undoubted macaw from one of the Copan monuments; and *c* is the most badly modelled and most seriously damaged of the four profiles of elephants upon stela B. Exact tracings of Mr. Maudslay's drawings of these profiles have already been given in the preface (p. 9). The American ethnologists claim that *b* and *c* are attempts to represent the same animal; and as *b* is clearly a macaw, they argue that *c* must also be a picture of the same bird. They have not attempted to explain why an artist capable of making so realistic a picture of the macaw as *b* is, should have been guilty of so grotesque a caricature as *c*. To give some idea of how a Copan artist represented

the macaw and the elephant I have had pictures of the two animals upon stela D (from Maudslay's atlas) reproduced in Plate 32. These two models, presumably by the same artist, make it abundantly clear that there was no confusion between the known bird and the unknown mammal.

But Professor Alfred M. Tozzer and Dr. Herbert J. Spinden maintain that the ancient Maya sculptor was modelling a blue macaw when he was carving the upper end of the Copan stela B. The evidence in support of this view, which the former cites, is "the ornamental scroll beneath the eye" (*Nature*, January 27th, 1916, p. 592). In the same number of *Nature* (p. 593) Dr. Herbert J. Spinden makes use of the drawings reproduced here as Plate 31, and cites "the spiral below the eye," not merely as an argument, but as the chief reason in support of his identification of the animals portrayed on the upper corners of stela B as macaws. He adopted this argument in spite of the fact, which he himself admitted, that the spiral is "turned in the opposite direction" (compare *b* and *c* in Plate 31). He might have added as another important difference that in the real macaw the spiral is behind the eye, whereas in the elephant it is below the "eye." None of these American ethnologists refer to the fact that in Asia conventional designs of the elephant and the elephant-makara often reveal the presence of a spiral appendage, which is coiled in the same direction and occupies the same position as it does in the Copan designs. Such an admission would have utterly destroyed the cogency of their argument in support of their macaw-hypothesis, and would also seriously minimise the

value of their comparisons between figures *b* and *c* in Plate 31[1].

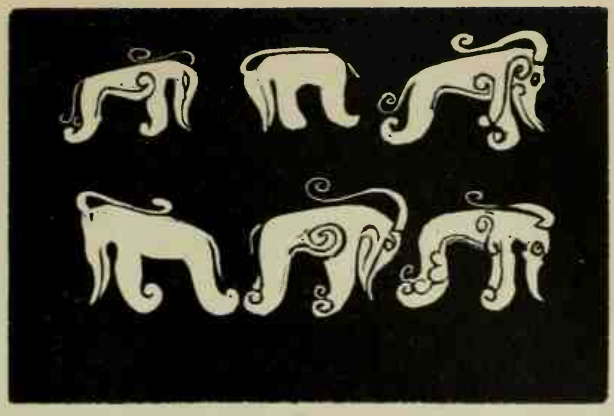
Dr. A. P. Maudslay, however, adopts another point of view. After calling attention to the fact that the main figure upon the stela has a head-dress that "bears a strong resemblance to a turban" he claims to be able to detect in the design above the turban "a grotesque face without a lower jaw"; and he refers to the spiral ornaments as "the great curved teeth common to this head and to the heads which bear some resemblance to those of elephants occupying the top corners of the Stela" (*op. cit.*, Vol. I, p. 42). Even if this suggestion should be justified—and I am bound to confess that I find some difficulty in detecting "the grotesque face without a lower jaw"—it would not diminish the ethnological significance of the design as an indication of cultural diffusion, but add very materially to its strength. For in some of the Javanese decorations of buildings erected during the same centuries as those which witnessed the achievements of the Maya architects one of the favourite ornaments was the *kirtimukha*, or "glory face," which like the Maya design was a grotesque face without a lower jaw. In *Rupam* (January, 1910), the history of this remarkable symbol of a famous Indian myth is given, presumably by the editor of the journal, Ordhendra C. Gangoly. In a reproduction of the back of a Javanese

[1] In the controversies concerning the representation of the macaw in Central American art, no attempt has been made to explain how the bird came to acquire a religious or mythological significance. It is interesting to note that just before the macaw was represented in American sculpture the parrot makes its appearance in Indian symbolism. There is probably a connection between these events.

stone statue of the elephant-headed god Ganesa, from Boro-budur, reproduced in Dr. N. J. Krom's recent monograph,[1] a *kirtimukha* (called by the Javanese *banaspati*, or " spirit of the woods ") is shown with tusks of exactly the same form as the spirals of the Copan Stela.

But most of those who have discussed the Copan stelae associate the spiral ornaments with the corner animals (i.e., the elephants) rather than with the central design. Spinden and Tozzer argue that the head depicted on the Copan monument is a macaw's and not an elephant's, because it has the spiral appendage. Spinden and those who base their theory upon this appendage, have neglected to explain, however, how the macaw got his spiral, which, according to their speculations, was also transferred to the elephant. If they are right in regarding the spiral of one design as being borrowed from the other they still have to explain its origin and why it differs in the two sculptures. When Tozzer and Spinden attached such crucial importance to the spiral they failed to realise that this embellishment belonged originally to the elephant (see Plate 2), and came to America from Asia as part of the elephant design. Instead of helping their argument the evidence of the spiral is fatal to its cogency. The macaw, in fact, did not give the spiral to the elephant. Possibly the way of representing the elephant's spiral may have had some effect in influencing the mode of conventionalising the macaw (Plate 31). The marking of the side of the blue macaw's neck possibly determined the position and the form of the sickle-like

[1] *Inleiding tot de Hindoe-Javanasche Kunst.* 1923.



Scottish elephant designs. Early Christian Period. (After John Stuart).

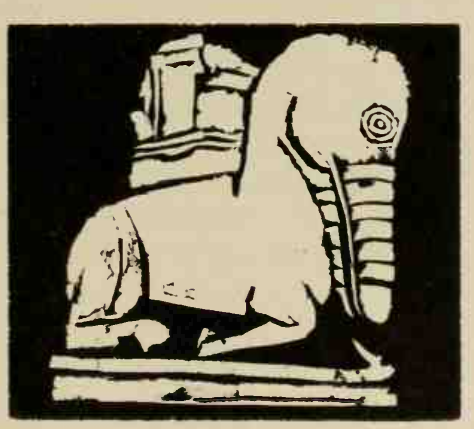


PLATE 33.

Elephant and Castle. From British bestiary. (After Druce).
Note the duck-like form of the elephant's head.

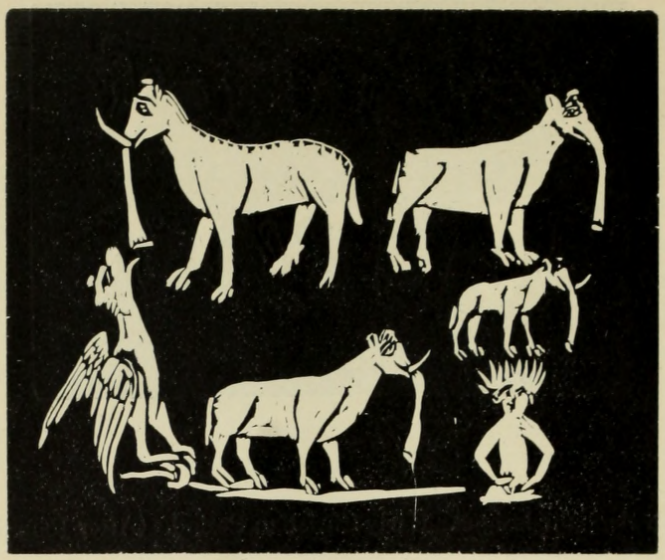


PLATE 34.

Elephants and mandrake. From a mediæval English bestiary. (After Druce).

figure there ; and, finding that in the analogous situation the grotesque alien " macaw " (for it seems possible that the early Mayan artist, like his modern American successors, may have confused the two creatures) had a spiral, he converted the macaw's sickle-shaped ornament into a spiral. This is mere conjecture. What is known for certain is that the elephant brought the unnatural spiral appendage with him from Asia.

The use of such a spiral ornament, especially in representations of the elephant, is of widespread occurrence in the Old World, as I have already explained in *Nature* (January 27th, 1916, pp. 593 and 594). The fact that the crude sketches of Indian elephants found in Scandinavia and Scotland (Plate 33) present a spiral ornament can hardly be a merely accidental coincidence. These drawings were made in early Christian and pre-Christian (Middle Iron Age) times.

Seven years ago, in *Nature* (February 24th, 1916), I discussed these Scottish designs and the interest of such collateral evidence from its bearing on the American problem. For the discussion of the significance of the Scotch pictures of the elephant has followed a course remarkably analogous to that which has been waged for a century around the American representations of the elephant.

In both cases all the early scholars, as well as those of our contemporaries who do not claim to have a special ethnological insight, are satisfied to regard them as pictures of elephants ; but the ingenuity of modern apologists insists on interpreting these sculptures in some more

recondite way. In America the ethnologists are not sure whether the creature depicted was a tapir, a tortoise, or a macaw. In Scotland and Scandinavia the dispute around the elephant is maintained by scholars who are wrangling as to whether it is a walrus, a sun-bear, or a lion-rampant! (For the literature the reader should consult Haddon's *Evolution in Art*, p. 194; the Earl of Southesk's *Origin of Pictish Symbolism*, 1893; and Hildebrand's *Industrial Arts of Scandinavia*, 1882.)

In 1856 and 1867 the Spalding Club published two magnificent volumes dealing with *The Sculptured Stones of Scotland*, in which the learned editor, Mr. John Stuart, brought his wide knowledge and common sense to bear upon the problems raised by the pictures of the elephant, and, I believe, settled the question for all time. He had no doubt whatever that the animal depicted was the Indian elephant, the knowledge of which "was brought into Europe by the Greeks after the Indian expeditions of Alexander the Great" (Vol. II, pp. xi and xii).

"The elephant of the Scotch stones cannot be regarded as a likeness but rather as a conventional representation of the animal, and the unvarying adherence to one form would suggest that the sculptors were unacquainted with the original and were not working from a traditional description . . . but rather were copying a figure with defined form" (p. xii). He adds further that the ornamental scrolls found on the elephant were not found on any other beast. In my opinion these scrolls were derived from the Indian sea-elephant type of "makara."

There is, of course, a very considerable mass of other literature relating to these elephants, both serious argument and modern speculation ; but the only other item that I need refer to is an episode in one of the Norse fairy tales, as translated by Sir George Dasent, of " an old hag drawing water out of a well with her nose, so long was it."

One might make the same remark about this story as Sir Edward Tylor (*Early History of Mankind*) made in reference to the American legend of the " great elk," told by Father Charlevoix (*History of New France*, 1744, Vol. V, p. 187) : " it is hard to imagine that anything but the actual sight of a live elephant could have given rise to this tradition."

There is no doubt that the mechanism of diffusion postulated by Mr. John Stuart in explanation of the Scottish designs applies also to the American. The making of amulets representing the elephant-headed god Ganesa is widespread in India at the present day, and no doubt was also a vogue in India, Cambodia and Indonesia at the time of the spread of culture across the Pacific. But numerous portable models of the elephant's head were being made in Eastern Asia (such, for example, as the broken pot shown in Plate 43) ; and the transmission of such an object across the Pacific would explain how the early American artists arrived at so exact a representation of an animal which obviously they had never seen in the flesh.

The problem of explaining how the elephant acquired the spiral ornament becomes of crucial importance in

the demonstration of the thesis set forth in this book. Many factors played a part in the development of the spiral symbolism and in bringing about its intimate association with the elephant.

In the first place it must not be overlooked that in the development of the elephant symbolism—and especially in the particular form which became most widely diffused —the Indian mythical "crocodile" or makara, played a conspicuous part, and that the ram's horn provided it with the spiral ornament. In Plate 28 an excellent example is given of such a makara acting as the vehicle of Varuna, an Indian god presenting certain analogies with the Maya god Chac and the Aztec Tlaloc. But many other influences were probably exerted to establish the association of spiral and elephant-makara and to mould this symbolism. In the early makaras the tail or at times even the whole body was represented as a spiral (Plates 17, 25, 35, 36). Then again, the flamboyant decoration around the makara's head not infrequently includes a definite spiral ornament at the angle of the creature's mouth or somewhere in the region of its neck or shoulder (Plates 1 and 18). This is especially the case in designs of the elephant-makara (Plates 19 and 42). No special importance, however, can be attached to such types of spiral embellishment, nor to the form that seems to have been adopted from the conventional mode of representing a serpent's tongue. But there are other forms of spiral ornament which have a profound significance. Throughout a wide area of the Old World the spiral ornament is a distinctive symbol of thunder

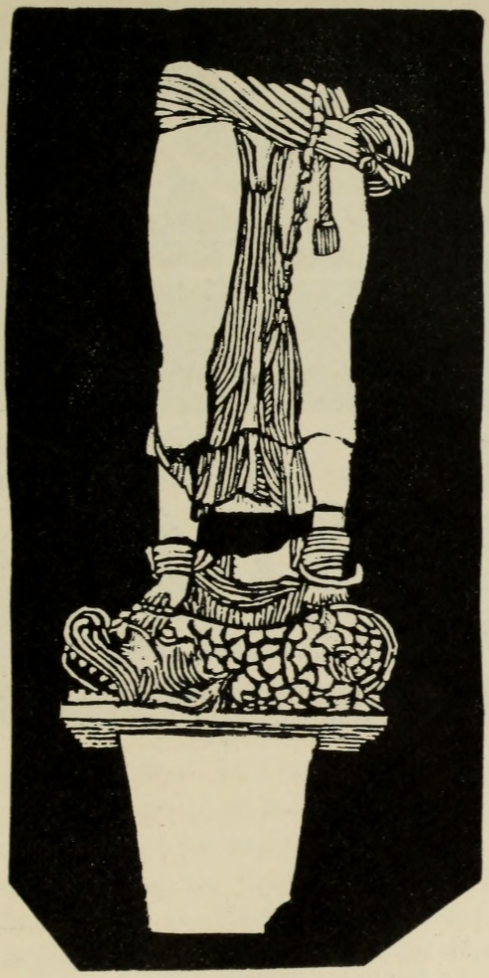


PLATE 35.

Early Indian (100 B.C.) figure of a Makara as the vehicle of a god.

PLATE 36.

Two early Indian Makaras showing respectively a human being and a fish in the monster's mouth.

and of the god of thunder. This seems to have been due originally to the identification of the Egyptian god Amen (Ammon)—the spiral-horned ram—with thunder. I need not enter into a discussion of how this spiral ram's horn came to symbolise the god himself and to be identified with thunder; most of the evidence relating to this subject has been set forth in detail in Mr. A. B. Cook's great monograph on *Zeus* (pp. 346, *et seq.*); and in *The Evolution of the Dragon* (pp. 98 and 177-178) I have suggested certain other factors (the influence of the octopus and shells), which may have played some part in determining the very remarkable association of the spiral with thunder.

The evidence collected by Mr. Cook reveals the predominant influence of the Amen-horn in the development of the spiral symbolism, and when it is recalled that in America it is the god of thunder that bears the elephant's head it becomes peculiarly important to discover the history of the association of the elephant and the spiral ornament. In *The Evolution of the Dragon* (1919, p. 178) I first put forward this idea as a tentative explanation of the elephant's spiral in America. In May, 1921, when addressing the Cambridge Anthropological Club, I discussed this matter and endeavoured to define the mechanism whereby the elephant acquired the spiral horn of Amen. I called attention to the fact that both in Eastern Asia and in America gods or priests were sometimes represented (Plate 13) wearing an elephant's scalp as a head-dress, in the same way as it is shown on the coins of Demetrius I. I also referred to the fact

that Alexander the Great was represented with the Amen's horn, and suggested that the combination of the two motives might have resulted in the embellishment of an elephant with the spiral ornament of the thunder-god. At the time I put forward this suggestion I was not aware of the fact that coin designers had actually done what I assumed they might have done. One of my audience, Mr. Charles T. Seltman, of Queen's College, Cambridge, kindly sent me a letter giving me the information that I lacked. "It occurred to me," he wrote, "that further light can perhaps be thrown by Greek Numismatics on the combination of elephant's head and ram's horn.

"Mr. A. B. Cook, to whom I have mentioned the point, has suggested my writing to you about it.

"In B.C. 332/1 Alexander the Great, visiting the Sanctuary of Ammon in the Oasis of Siwah, was hailed by the priests as son of that God. In 326 B.C. he crossed the Indus.

"Immediately after his death Ptolemy I, as governor of Egypt, struck coins in B.C. 323 with the head of the deified Alexander as obverse type, combining on the head the attributes of the sky-gods of Greece, Egypt and India. Tied round his neck is the Aegis of Zeus; from his temple grows the ram's horn of Ammon; as head-covering he wore the scalp of an Indian (small-eared) elephant [compare Plates 14, 37 and 38].

"This is clearest in the first coin issued (British Museum Catalogue, Ptolemies, Kings of Egypt, 1883, Plate I, No. 1); but it is also clear on some of the coins of the next issue (*op. cit.*, Pl. I, no. 6).

PLATE 37.

A series of Greek coins, showing representations of the elephant's head as a head-dress, and the Ammon's horn as an appendage, and (in Plate 40) the combination of the two designs. (From the British Museum Catalogue of Ancient Coins).

PLATE 38.

"It would seem from this that one can date the combination of elephant's head and ram's horn back to B.C. 323, and thus trace the indirect influence of Alexander as far as Central America.

"The elephant's scalp (without the ram's horn) occurs as the royal head-dress on coins of the Indo-Bactrian Kings: Demetrius I, *circa* B.C. 170 (B.M. Cat., Indian Coins—Greek and Scythian Kings, P. II, 9-12) and Lysias, *circa* B.C. 150 (*op. cit.*, P. VIII, 6). But it seems to have been the very plentiful coinage of Ptolemy I which originated the curious combination of elephant and ram."

At one time I thought this might afford an explanation of how the spiral ornament was added to the elephant-design in India. But the fact that makaras are often provided with elephant's trunks and sometimes also with ram's horns, perhaps occasionally in association the one with the other in the same sculpture (Plate 28), seemed to provide the clue for the true solution of the problem. The assimilation of the great gods in India may have led to one and the same mythical creature being furnished with the head of Indra's elephant, the spiral horn of Agni's ram, and perhaps also the horns of Soma's antelope or deer. Whatever the explanation of its origin it is known that the spiral was a frequent addition to a variety of animal designs in Eastern Asia as early as the Han Dynasty in China (see, for example, Laufer's monograph, *Jade*, Chicago Field Museum of Natural History, 1912, p. xliii).

But even if it should be proved that the spiral ornament on the makara was originally derived from the

ram-fish type of mythical monster, it is possible that its special association with the elephant (a fact noted sixty years ago by John Stuart) may have been crystallised, so to speak, by the coinage of Ptolemy I, and diffused abroad to Scotland in the West and Central America in the East.

The representation of a spiral ornament on the side of the Phrygian cap worn by a god or priest in America is shown in Plate 39.

In the discussion of the fantastic couches found in Tutankhamen's tomb,[1] I emphasised the far-reaching importance of the symbolism expressed in these remarkable pieces of funerary equipment. As vehicles to convey the dead king to the celestial regions and to the attainment of the immortality that was the distinctive attribute of divinity the lion-headed couch came to be the common determinative of a god. Many illustrations of such ideas are found in America. But I have selected for representation here an example of a two-headed lion couch, bearing a god sitting in Indian attitude on a stool. He is wearing a Phrygian cap embellished on the side with a characteristic spiral Amen-horn. The form of the couch recalls that of a curule chair depicted on a Consular diptych of Flavius Clementinus (who was consul at Constantinople in 513 A.D.), which is now in the Free Public Museums at Liverpool.

I have introduced this drawing not merely because it illustrates so strikingly the manifold cultural influences of the Old World that became blended in one object in

[1] *Tutankhamen and the Discovery of his Tomb*, 1923, chapter vii.

the New, but more particularly because it illustrates the use of the spiral in a way that lends some support to the hypothesis suggested in the foregoing pages.

The use of the lion-headed couch and of a variety of makara-types in America as vehicles for gods whose homologues in the Old World are supported by the same objects affords a very striking corroboration of the theory of diffusion.

Animal Vehicles

In *The History of Hindu Iconography* (*Rupam*, October, 1920) Professor A. A. Macdonell states that "Even so late a work as the *Brhaddevata* expressly observes that a god is to be recognised in the *Rigveda* by his weapon (*ayudha*), or his vehicle (*vahana*)" (p. 12). But there is nothing to suggest that in India images of the gods were made before 400 B.C. "Down to the first century after Christ, the gods were regarded as purely anthropomorphic in shape" (p. 13). It is important to note that "four-armed deities begin to appear on coins towards the end of the first century and became an established type by 200 A.D." (p. 13). "But the earliest dated sculptural image of Siva (A.D. 458) is still two-armed" (p. 15). "The *vahana* serves both to indicate the divine nature and the identity of the image" (p. 14). The vehicles are the elephant of Indra, the seven steeds of Surya, the crocodile (*makara*) of Ganga, the tortoise (*kurma*) of Yamuna, and the two elephants that accompany Laksmi. In all these cases the deity has only two arms. "The idea of

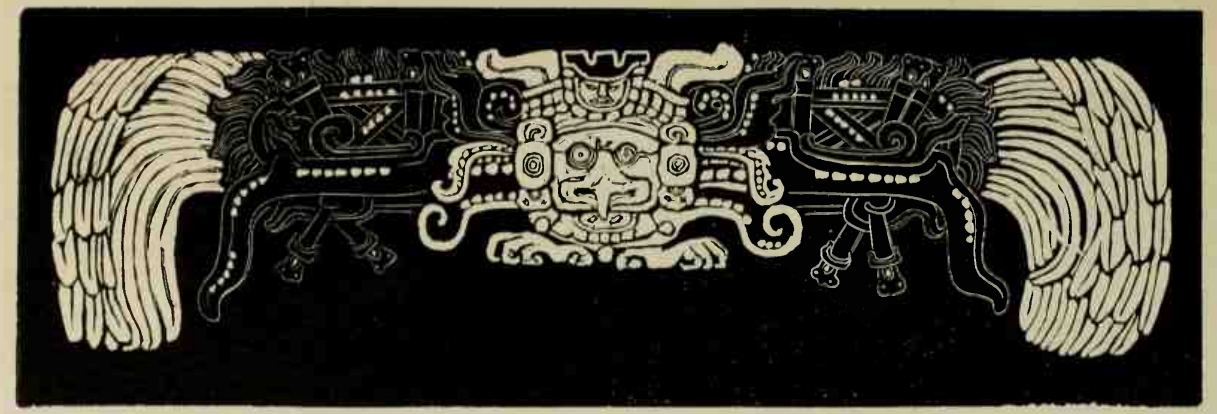
introducing *vahanas* into Indian sculpture as a mark of identification was not a new one, for it is traceable to the *Rigveda*, where the cars of the gods, though generally drawn by horses, are also described as yoked with various other animals, such as the antelopes of the Maruts and the goats of Pusan" (p. 14). "Among the new (post-Vedic) divine *vahanas* are the elephant (*airavata*) of Indra and the bull (*nandi*) of Siva. The latter occurs on a coin beside a figure of Siva as early as the first century of our era" (p. 14).

"The second way of distinguishing a god was by his weapon; for instance, Indra by his *vajra*, Vishnu by his *cakra*, and Siva by his *trisula*. The latter emblem, held in his hand by Siva, appears on a coin of the first century after Christ" (p. 14).

In America are found depicted in the ancient manuscripts both the vehicles and the weapons appropriate to the gods whose Indian homologies have been determined.

But the use of animal vehicles appears there also in another form, the prototype of which has survived until the present time in Borneo. Reference has already been made to the attributes of the crocodile as a water-god in Borneo and to the use of boats and coffins in the shape of crocodiles (makaras) as vehicles to convey the dead to the other world.

Dr. Hose tells me that it is the practice in Borneo to make stools in the form of the crocodile, not only as supports for coffins to give safe passage to the home of the dead, but also as seats for the living to ensure protection



Design from a lintel in a temple at Tikal, showing the American form of winged disc, with grotesque bird-like face in the centre, having wings on each side of it, and the highly conventionalised and reversed head of a snake without a lower jaw. (After Maudslay).

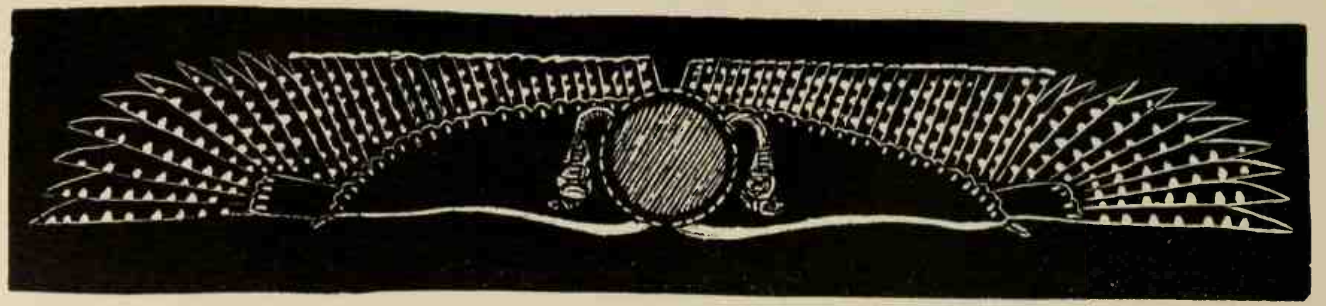


PLATE 40.

For comparison, the Egyptian winged disc, reversed. (From funerary chapel of Thothmes I., after Naville, "The Temple of Deir el Bahari," Part 1, Plate 9).

PLATE 41.

A design from a Copan altar, described by Spinden as the two-headed dragon. The real head (on the left) is particularly interesting because the upper jaw reveals features not only suggestive of the eastern Asiatic elephant-form of the Makara, but also shows the two cross-hatched maculæ which represent the under surface of the trunk and the tusk respectively of the more definitely elephant-shaped Copan design. Emerging from the mouth of this Makara is the human head. This figure may be compared with the winged discs (Plate 40) and the Kirtimukha (Plate 42) to suggest the possibility of identity of inspiration. (After Maudslay).

from danger. These beliefs explain the vital appeal of the crocodile-symbolism to the people of Indonesia, and enable us to understand why the customs associated with the crocodile spread to Melanesia and elsewhere in Oceania. The prominent part played by the crocodile in Maya and Aztec mythology and the use of animal-shaped seats (metates) in Equador and elsewhere, is clearly due to the influence of Indonesian culture in America.

The Winged Disc

Earlier in this chapter I have discussed the influence of the design known in India as the *kirtimukha*, or " glory face," in Maya architecture. The custom in America of representing a grotesque face with bulging eyes and no lower jaw was probably due to the adoption of this Asiatic convention, which enjoyed a widespread vogue in Java and Indo-China during the time when the Maya architects were active in Central America.

The similarity in the uses of the Indian kirtimukha design and the Egyptian winged disc on the lintels of doorways raises the problem whether the former may not have been suggested by the latter. I do not propose to discuss this problem at present and refer to it only to suggest that both the winged disc and a variety of modified forms of it were transmitted to America.[1] In the process of diffusion the design became reversed (compare the two figures in Plate 40). The evidence for this is provided

[1] As I have explained elsewhere, *The Influence of Ancient Egyptian Civilisation in the East and in America* (Manchester, 1916).

not only by the wings of the design, but also by the jaws of the conventionalised serpents, as Maudslay, Spinden and others have already shown. But the face of the so-called serpent-bird is that of the Indian kirtimukha and the absence of the lower jaws of the conventionalised serpents' heads is further corroboration of the influence of the "glory head." The re-appearance of all these arbitrary Asiatic motives upon the American side of the Pacific, where they are built up into a new and distinctive mosaic, affords the most impressive confirmation of the reality of the diffusion of culture.

PLATE 42.

Image of Kirtimukha, with Makara appendages, from a Javanese Temple. (From "Rupam," 1920).

Probably a modified form of the Winged Disc.

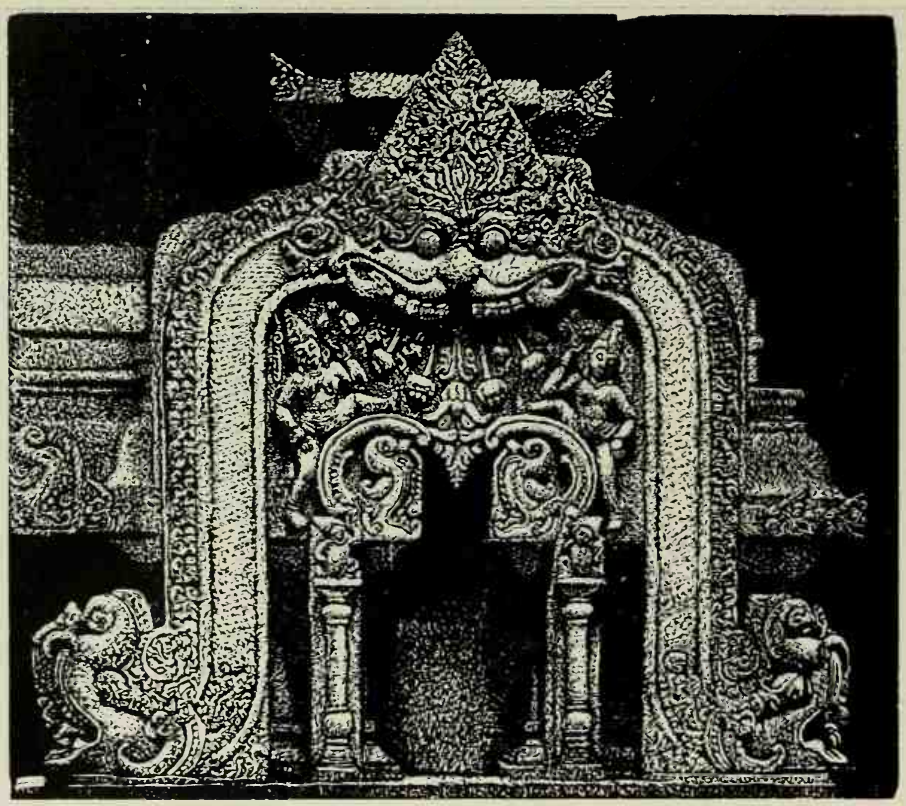


PLATE 43.

The Kirtimukha, with Makara appendages, as the ornament of a doorway to a Javanese Temple. (From "Rupam," 1920).

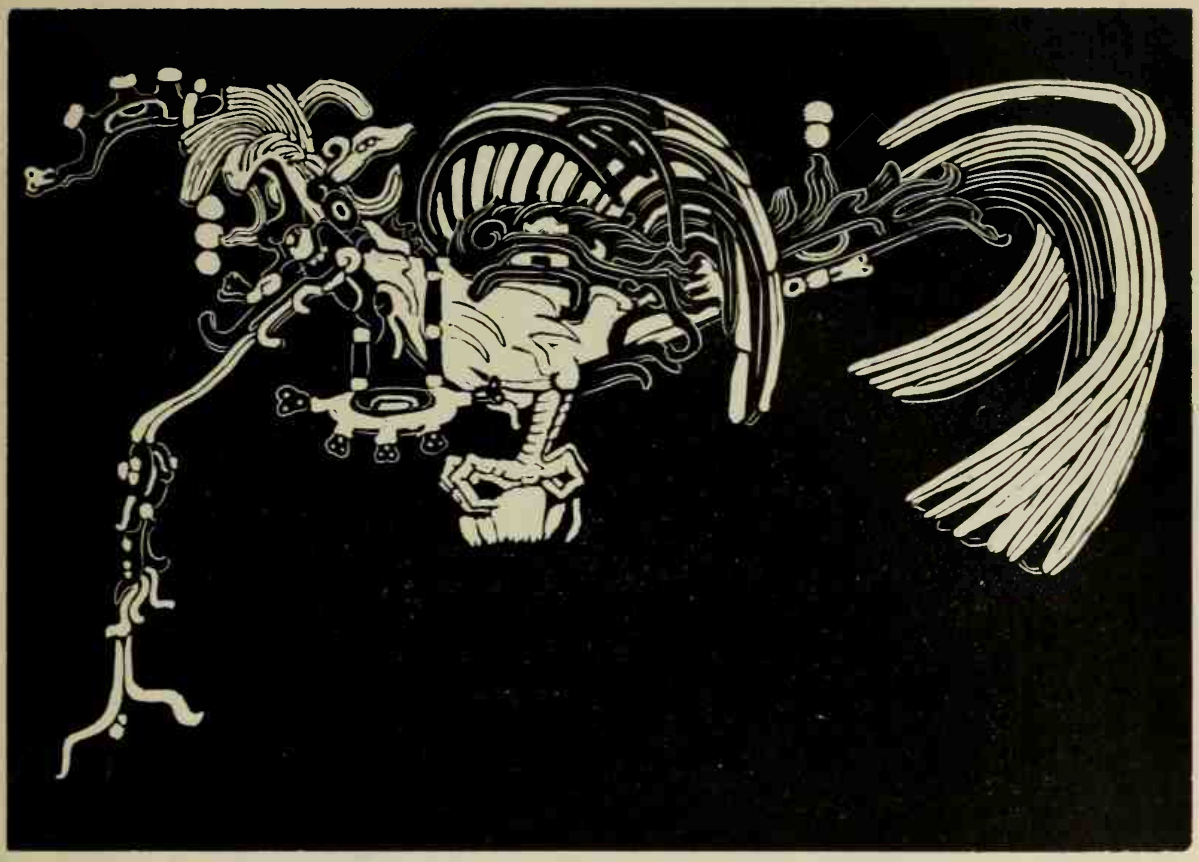


PLATE 44.

The American "Serpent-Bird," with a head suggestive of the most highly specialised type of Elephant-Makara.

PLATE 45.

The American (Maya) Serpent Bird.
A specialised form of the Winged Disc.

CHAPTER V

The Date of the Diffusion of Culture to America

THOUGH the reality of the diffusion of culture across the Pacific during the first ten centuries or so of the Christian era is established beyond all question, there has been a difficulty, which even now is not wholly resolved, as to the dates at which the spread occurred.

Into the south-eastern corner of Asia a spread of culture from India had been in progress for many centuries before any of the existing stone monuments were erected there. In America also there is clear evidence of the introduction of an archaic culture (into Mexico, Nicaragua, Costa Rica, Panama, Columbia, Venezuela and Peru) many centuries before the erection of stone monuments. As in Indo-China, both phases of culture in America, the archaic and the more fully-developed later civilisation, bear an obtrusively Indian appearance, for the turbans of the figurines of the earliest culture horizon are as distinctively Indian as are the Copan elephants. While the architectural methods and the sculptural embellishments of the Maya monuments in America indicate quite definitely the Asiatic influence of Cambodia and Indonesia as their inspiration, difficulty has hitherto been created by the fact that the American archæologists assigned dates to the monuments of Honduras and Guatemala which were earlier than those of their Asiatic prototypes in

Indo-China and Java. Thus Bowditch, whose dates are adopted by Joyce in the British Museum *Guide* (1923), assigns to the " Old Empire " dates ranging from 94 B.C. to 340 A.D., which he sub-divides into an Archaic Period ending in 104 A.D., a Middle Period in 202 A.D., and a Great Period. But the result of Morley's recent investigations is to reduce these dates by nearly three centuries and substitute 176 A.D. for 94 B.C. and 610 A.D. for 340 A.D. This correction is of cardinal importance in the enquiry with which this book is concerned, for it, partially at least, overcomes the chief difficulty that stood in the way of the full recognition of the Asiatic influence in America. But, as I have already observed in the first chapter of this book, I should not be surprised if eventually the Maya monuments are proved to be even more recent than Morley's estimate. In conversation with M. Victor Goloubew, the distinguished archæologist of the École Francaise d'Extreme Orient, with reference to the Cambodian prototypes of the Maya monuments, the view was expressed that the period from the sixth to the ninth centuries A.D. seemed to be the most likely time for the diffusion of the appropriate Asiatic models. However, this is a problem which can be discussed later, when competent archæologists come to realise the urgent necessity for instituting exact comparisons between the American and the Cambodian monuments.

One of the factors that has hampered the serious investigation of this fundamental issue is the baseless assumption that Polynesia was not occupied until the seventh century A.D. There is no justification for such

a belief; for there are good reasons for supposing that seamen were roaming far and wide in Oceania centuries before that date. The culture of San Cristoval,[1] in Melanesia, definitely belongs to the Pyramid phase of culture in Egypt, roughly 2600 B.C.; and even if some centuries are allowed for the diffusion of customs and beliefs step by step from Africa to the Solomon Islands—although the purity of the culture suggests that the spread could not have been unduly delayed—we can be confident that western culture was playing a part in the threshold of the Pacific at least a thousand years B.C. I need not enter more fully into the discussion of this problem here, because the question of Polynesian chronology is dealt with by the late Dr. Rivers in a chapter on The Peopling of Polynesia, which will appear in his forthcoming book of essays, *Psychology and Ethnology*. With clear vision and sound judgment he has established the case for the early peopling of the Pacific and for the diffusion of culture to America before the commencement of the Christian era. But his general conclusions have already been adumbrated in his posthumous book, *Psychology and Politics*.

It is important to bear in mind that stela B was erected at a comparatively late date in the history of Copan, which some archæologists attempt to define more exactly by referring the famous elephant sculpture to the beginning of the third century A.D. In all probability its actual date should be put at least three centuries later.

[1] See W. H. R. Rivers, *Psychology and Politics*, p. 129 *et seq.*

There is no certain evidence of any definite cultural development in America earlier than the Christian era. A small object made of " a variety of jadeite " (Henry S. Washington) was ploughed up in 1902 in the district of San Andrés de Tuxtla on the Gulf Coast of Mexico, about 100 miles north of Vera Cruz ; and this so-called Tuxtla statuette is regarded as the oldest known dated object in American art, for which Dr. S. G. Morley assigns an age of 96 B.C.[1]

Inscribed upon this statuette are many hieroglyphs ; and the fourth sign in the long column on the back—and in Washington's memoir there is a suggestion (p. 2) of ' a later date for the glyphs on the back than for those on the front "—is a conventionalised elephant.

But if there are no objects to which a reasonably precise date can be assigned earlier than the Christian era there is an archaic culture ranging from Mexico through Central America and the Isthmian region to Colombia, Venezuela, Peru and elsewhere, in South America, for which a date as early as 200 B.C. or even earlier has been suggested.[2] In the figurines that have been recovered from these earliest sites, more especially in Mexico (see Spinden, p. 51), turbans of characteristically Indian type are represented. In November, 1921, Mrs. Zelia Nuttall, who recovered some of these statuettes in

[1] Henry S. Washington, " The Jade of the Tuxtla Statuette, No. 2409, *Proceedings U.S. National Museum*, Vol. 60, Art, 14, 1922.

Sylvanus Griswold Morley, *The Inscriptions at Copan*, Carnegie Publication No. 219, 1920.

[2] Herbert J. Spinden, *Ancient Civilisations of Mexico and Central America*, second revised edition, 1922, p. 61 ; Philip Ainsworth Means, Pre-Columbian Peruvian Chronology and Cultures, *Man*, November, 1918, p. 168.

her own garden in Mexico City, gave an account of them to the Royal Anthropological Institute. In the course of conversation she informed me that she had shown these rough clay models to scholars familiar with the fashions of ancient India, and they had identified the turbans as distinctive of certain regions of India. Her specimens were found under a layer of lava which is supposed to have been ejected from the volcano approximately two thousand years ago.

Of the many unwarrantable assumptions repeatedly used by those who refuse to recognise trans-Pacific influence in America, none perhaps has been more widespread or more fruitful of misunderstanding than the claim that the first immigrants did not make their way into Eastern Polynesia until long after the great civilisations of Mexico and Peru were in full bloom. Dr. Clark Wissler[1] and Dr. Hrdlička[2] might be cited as two recent writers who have made use of this fallacy, against which the late Dr. Rivers entered the protest (*Man*, 1919, p. 76) that "Dr. Wissler's argument is vitiated by his adoption of the current view, a view based entirely on tradition, that the Polynesians are recent arrivals in the Pacific."

Ninety years ago the eminent pioneer of education in Australia, Dr. John Dunmore Lang, of Sydney, discussed[3] the origin of American civilisation with much clearer

[1] *The American Indian*, New York. 1917.

[2] *Man*, 1917, p. 29.

[3] *View of the Origin and Migrations of the Polynesian Nation; demonstrating their Ancient Discovery and Progressive Settlement of the Continent of America*, by John Dunmore Lang, D.D., Principal of the Australian College, Sydney. London, 1834.

insight and discrimination than any of his predecessors. He arrived at the conclusion that "Mexico was the centre, or starting-point, of American civilisation; from whence, in successive ages, the stream continued to flow both northward and southward" (p. 235). Like so many of his successors he confused the diffusion of culture with the migration of population. He claimed (p. 237) that "America was originally peopled across the broadest part of the vast Pacific Ocean by individuals of that ancient Asiatic and primitive race (the inhabitants of the South Sea Islands)" when in fact he had proved that there was a diffusion of culture by that route. This confusion of race and culture impelled him to deny that the northern route (Behring Straits) provided the channel by which the major part of the immigration of people into America was effected. The other weakness of his argument, which is really a reflection of the fashion of the time, was his use of statements in the Old Testament to buttress his case in a way which is contrary to the practice of modern scholarship. With these two reservations Lang's statement reveals a cogency and an understanding of the real historical factors that was lacking in his predecessors: his work marks an epoch in the study of the origin of American civilisation. His appreciation of the real significance of the evidence is perhaps revealed most clearly in his criticisms of Ellis's fallacies, and especially of the claim that part of the population of the South Sea Islands was derived from the continent of America. He gives two reasons for regarding such a suggestion as false and untenable:

"It implies that the inhabitants of the west coast of America have been a maritime people; which, it is well known, they have never been, and which indeed the very nature of the country they inhabit precludes them from being," and that they were in the habit of making voyages of discovery and adventure into the Pacific Ocean—"a supposition utterly preposterous" (p. 167), for reasons which he expounds with great lucidity and cogency.

One of the most surprising phenomena in modern ethnological speculation is the persistent refusal on the part of the believers in the fashionable dogma of the spontaneous generation of customs and beliefs to give adequate recognition to the tremendous significance of the admitted facts of man's early wanderings in Oceania. This repression of inconvenient evidence becomes more intelligible when it is realised that no one with any sense of consistency and logic could seriously study the facts of maritime enterprise in the Pacific and retain his simple faith in the independent origin of similar customs and beliefs in the Old and New Worlds. Yet the evidence in confirmation of the reality of the exploitation of the whole of Oceania many centuries before the intrusion of Europeans into that area is abundant and precise. I do not propose to discuss the writings dealing with this problem, because the reader will find a concise summary of them (with a voluminous bibliography) in Dr. Georg Friederici's important memoir.[1] He says there are many reasons to suggest that the movement of seafarers from

[1] *Malaio-Polynesische Wanderungen*, Vortrag gehalten auf dem XIX Deutschen Geographentage zu Strassburg i. E., 4 Juni, 1914.

Further India out into Oceania began very early, and that it lasted many centuries or even millennia, during which the spread was slow and gradual. He assumes that as the Polynesian language is devoid of Sanskrit elements, the migration into the Pacific must have left Indonesia before the period of Hindu influence. But the history of the effacement of linguistic traces, even in Cambodia (see Chapter VI) and Indonesia themselves, suggests the need for caution in using the argument from philology.

The ancient mariners who made their way into Polynesia discovered and settled in almost every islet on that vast expanse of ocean. The widely scattered islands were discovered either by accident or as the result of deliberate exploration ; and we know sufficient of the traditions of the peopling of the Pacific to be certain that both factors played a part in the process. Is it at all likely that seamen who wandered as far as Easter Island, Hawaii and New Zealand refrained from going farther East ? Is it not certain that for every boat which chanced to reach Easter Island, a microscopic speck in far eastern Polynesia, there must have been hundreds, if not thousands, that missed it and passed on to the American coast ? That this actually happened is proved beyond all possibility of doubt by the nature of the earliest culture of Mexico, Central America and Peru, its unmistakably Indian aspect and the equally distinctive traits revealing the influence of Indonesia, Cambodia and Melanesia.

But many ethnologists who admit these considerations are restrained from accepting all the implications because they find difficulties in the details of the mechanism of

cultural transmission. Sufficient attention has not hitherto been given to the well-authenticated cases of extensive journeying by native boats. There is the instance of a boat which remained at sea for five months, its passengers surviving on a diet of sea-animals (including sharks) and rain water. A boat from Mangareva in the Paumotus, travelled 3,700 nautical miles until it reached Sikayana atoll, east of Malaita, in the Solomons. Had this vessel travelled an equal distance east instead of west from Mangareva it would have reached America. A boat from the Carolines is known to have travelled 2,700 kilometres against the wind ; and it is a not uncommon incident in Polynesian experience for boats out of their course to travel from one to two thousand sea miles. Other information and bibliographical references the reader will find in Friederici's memoir. But I have quoted enough to emphasise the fact that during the many centuries of such far-flung journeyings many thousands of boatloads of immigrants must have arrived on the Pacific coast of America, bringing with them a variety of contributions from the civilisations of the Old World.

Friederici says the Polynesians often travelled with the definite intention of colonising and therefore took their wives and children with them. But the Melanesians were not given to maritime adventure on the high seas, and when they did travel long distances it was usually due to the unintentional drifting of boatloads of fishermen, traders or warriors, in most cases without their wives.

During the zenith of their power, probably between 700 and 1,200 A.D. (a date which coincides in a remarkable

way with the culmination of civilisation both in Cambodia and America) every Polynesian group knew of some other with which it kept in touch by regular communication. Voyages of several days in double-boats between Samoa, Tonga and Fiji were quite common up to the time of the European intrusion into the Pacific.

The boats in which these voyages were made attained a great size, sometimes as much as 130 feet in length, and were capable of carrying as many as two or even three hundred passengers. For long voyages they were provisioned with living domestic animals, fish, fruit, preserves, et cetera; water was carried in bamboos. Fish, as a rule eaten raw, was caught on the way.

Friederici traces the history of the development of different types of ships in Polynesia and calls attention (p. 20) to the fact of far-reaching significance that a wooden raft of Mangareva style, with double masts side by side, and sail spanned between them in the Paumotu fashion, was found upon the coast of the Inca empire. This sail between double masts is the only authentic pre-Columbian sail in America. Pre-Columbian double boats were also known upon the Pacific coast of Central America. Friederici gives references to other records in corroboration of this and traditions of the aboriginal Americans themselves concerning double-boats.

After referring to the extraordinarily large number of ethnological parallels between America and Oceania, the similarity of their boats, the traditions suggesting contact, and the names *kumara* and *ubi* for two important food plants common to the New World and Polynesia,

and further in view of the fact that the Polynesians are known to have had the ways and means for reaching America by water, Friederici says all doubt vanishes that they actually did so.

The sole reason for the refusal to admit that the Copan sculptures and the pictures on the Maya codices are Indian elephants is due to the fact that such an admission would destroy the whole foundation of the doctrine of the independent evolution of American culture. I am not claiming that ethnologists on the two sides of the Atlantic are wittingly guilty of this deception ; it is a case of the unconscious repression of an awkward fact. Having adopted as a rigid dogma, to which they cling with quasi-theological fervour, the belief that the civilisation of the New World was developed without any help or even prompting from the Old World, it is clearly impossible for them seriously to consider even the possibility of an Indian elephant being represented on American monuments. Therefore, without even examining the evidence that is fatal to their creed they simply shut their eyes to it and refuse to admit a patent fact.[1]

The closest parallel I can find to the methods of the ethnologists who maintain that the Copan elephant is a tortoise or a macaw, and attempt to ridicule those who refuse to be blinded to the truth, is provided by those adopted in 1615 in the attempt to crush Galileo and force him to relinquish the opinion that the sun was the centre of the universe and that the earth moves round it.

[1] For a remarkable collection of analogous attempts to defy the clear meaning of evidence by appeals to dogma, see Andrew Dickson White, *A History of the Warfare of Science with Theology*.

The excuses made by Tozzer, Spinden, Clark Wissler and Morley for their refusal to distinguish between an elephant and a blue macaw are modern examples of evasion that deserve to be placed with their mediæval prototypes.

But when one realises the true reason for the refusal of these ethnologists to recognise the elephant when they see it, namely their firm conviction that there was no contact between the Old and the New Worlds at the time when the Copan sculptures were carved, the attitude of the distinguished anthropologist, Mr. W. H. Holmes, becomes even more puzzling still. For Mr. Holmes is immune from the difficulty which hampered his colleagues and made it impossible for them to admit the truth. Yet while he is arguing for the reality of the debt of Central America to the East Indies, which is revealed by the identities of architectural motives and decorative ideas (especially the sculptural embellishments and the manner of their applications to the buildings) he accepts the conventional statement that " no sculptural animal forms absolutely identical with those of the Old World " are found in America. Writing as recently as February, 1920, in *Art and Archæology* (p. 88), he makes the following statement, without qualification or any reference to former discussions of the problem: " The elephant, for example, so important a sculptural subject in India, does not appear in these [Maya] ruins, although there are snout-like features that suggest the trunk." When I remind the reader that this statement occurs on a page embellished with a series of Maya sculptures of men in

characteristically Indian postures, and wearing equally distinctive Indian turbans, and that its author is arguing in favour of the transmission of Indian culture to America —that is, he is free from the motive that impels so many of his confreres to repress the identification of the elephant in Maya pictures—one is at a loss to understand why no mention is made of the controversies concerning the elephant that have played so large a part in the discussion of the very problem he is dealing with and attempting to solve. It is not because Mr. Holmes is new to these controversies, or is not acquainted with the Cambodian evidence. In 1912 he discussed[1] the remarkable analogies between certain elements of culture in the New and Old Worlds, calling special attention to the stone gouge of New England and Europe. "Even more remarkable and diversified are the correspondences between the architectural remains of Yucatan and those of Cambodia and Java in the Far East. On the Pacific side of the American Continent strange coincidences occur in like degree, seeming to indicate that the broad Pacific has not proved a complete bar to intercourse of peoples of the opposing continents . . . it seems highly probably considering the nature of the archæological evidence, that the Western World has not been always and wholly beyond the reach of members of the white, Polynesian, and perhaps even the black races."

In these comparisons with Cambodian and Javanese architectural embellishments, Mr. Holmes cannot have failed to realise that the same conventionalisations of the

[1] *American Anthropologist*, XIV, pp. 34-36.

makara, the elephant and the serpent, which are the obtrusive features of the sculpture of South-Eastern Asia re-appear in Central America and Mexico almost synchronously, and complete the demonstration of the fact that the Asiatic designs of these conventionalised animals, both separately and in combination, inspired and determined the most distinctive features of the earliest American sculptures. I can only confess my inability to understand Mr. Holmes's attitude.

In studying the mechanism of the diffusion of the elephant-design and the remarkable modifications effected in the form of the creature when the conventional picture is transferred to regions where the animal itself is unknown, Western Europe provides numerous fantastic examples. Putting aside for the moment the ancient Scottish sculptures, the early Scandinavian ornaments and the stories preserved in folk lore,[1] the reality of which as references to elephants is disputed by many archæologists, the mediæval bestiaries provide ample material for investigating the transformation of undoubted elephants in decorative art. Fortunately this interesting field of enquiry has recently been explored by Mr. George C. Druce in his memoir on *The Mediæval Bestiaries and their Influence on Ecclesiastical Decorative Art.*[2] The elephant is fully described and illustrated usually in the form of the elephant and castle. Mr. Druce says that no doubt pictures were available from Eastern sources, and the

[1] For references to these classes of evidence, see my letter published in *Nature*, 1916, February 24, p. 703.

[2] *The Journal of the British Archæological Association*, Vol. XXV, December, 1919; see especially pages 59 to 64, and Plates VIII, IX and X.

fashion once started, one artist followed the other. This would explain the rapid deterioration of the elephant's likeness, which is as obtrusive in the European bestiaries as it is in the American manuscripts. This applies especially to the form assumed by the trunk, ears and tusks, the forms of which are even more grotesquely inaccurate in certain mediæval European sculptures than they are in the American manuscripts and carvings made several centuries earlier. The source of most of the European folk-stories concerning the elephant can be detected in the writings of Pliny and Ambrose. But certain phrases are suggestive. Thus: "Its snout is called a trunk because it puts food into its mouth with it; and it is like a snake guarded by a wall of ivory." In Sanskrit the same word is used for snake and elephant; and in America the elephant-headed god is often represented, especially in the Maya codices, with a snake's body.

The old classical story of the enmity of the elephant and the dragon is of peculiar interest because the elephant itself assumes the rôle of the good dragon, such as the type that became dominant in Eastern Asia and America—for the Chinese dragon is the homologue of the Elephant-headed God of Central America. The dragon of the elephant and dragon myth is the evil monster of Babylonia and Europe. A story of the elephant's habits, told in the mediæval bestiaries affords an interesting commentary on these records.[1] Elephants are said to be cold-blooded creatures, slow to breed. When the time

[1] See Druce, pp. 60 and 62.

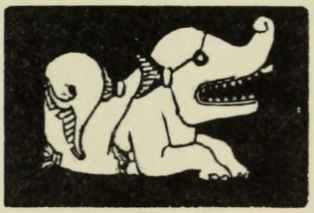
of mating arrives they are said to go to Paradise (the Garden of Eden), where the mandrake (the Tree of Knowledge) grows, and the female eats of it and then gives it to the male, whereupon she immediately conceives. And when the time of delivery approaches, they retire to a swamp, where the calf is born, and where the female stays guarded by the male for fear of the dragon, its enemy, which lays in wait to destroy the young Elephant. The dragon here is the serpent of the Biblical story, which also presents analogies with the Egyptian myth of Hathor (Isis) in the marshes defending her child from the evil Set. I have referred to this story of the conflict between the elephant and the dragon and its widespread associations because it was one of the favourite themes of the earliest American scribes. In the Maya codices the elephant is represented not only as a serpent (the Indian naga), but also as the serpent's (dragon's) enemy. The Vedic story of the god Indra, whose vehicle in the Old World is the elephant, crushing the serpent, who prevents the rain from falling, was a favourite motive for the American artist, who, however, gave the rain-god an elephant's head (Plates 15 and 16).

It is a very singular fact that the evidence collected by Humboldt in his *Vues des Cordillères* in 1813 has not brought about a general conviction of the reality of the influence of Eastern Asia upon the nascent civilisation of America. The Indian analogies, the animals associated with the symbolism of the calendars, the mythical catastrophes, and the story of the flood, afford certain and irrefutable proofs of contact. The coincidences are

so many and of so fantastic a character that mere chance as an explanation of them is utterly incredible. Yet the late Dr. Brinton tried to evade the clear significance of all these astounding coincidences by the claim that "there is absolutely no similarity between the Tibetan calendar and the primitive form of the American." He states further with reference to the latter that it "was not intended as a year-count, but as a ritual and formulary," and its signs "had nothing to do with the signs of the Zodiac, as had all those of the Tibetan and Tartar calendars."[1] But this statement is a mere evasion of the issue. The American calendar is unique; and it is not pretended that it agrees with the Asiatic forms; nor is it claimed that the Aztecs had any knowledge of the Zodiac. The essence of the argument is that, in spite of all these differences, people on the two sides of the Pacific made use of the same arbitrary symbols, without realising the meaning originally associated with them in the home of their invention. This utterly precludes any possibility that the Americans invented this symbolism and makes the speculation of independent evolution inappropriate and inapplicable. Whatever view one may take of the significance of the American calendrical knowledge, there can be no question of the Maya people's exceptionally intimate acquaintance with celestial phenomena. This fact becomes a very important element of proof of the tremendous influence of Polynesia in the building up of pre-Columbian civilisation, for to these Argonauts of the Pacific the study of the stars was a constant and vitally

[1] "On Various Supposed Relations, etc.," p. 148.

necessary part of their daily life; and the empirical knowledge acquired by them[1] provides the explanation of what otherwise would be a very remarkable enigma, how the Maya and Aztec peoples attained such exceptional proficiency in astronomical calculations.



[1] Elsdon Best, *The Astronomical Knowledge of the Maori*, Dominion Museum Monograph, Wellington, New Zealand, 1922.

At the time when this chapter was written, I was not acquainted with Mr. G. C. Druce's important monograph *The Elephant in Medieval Legend and Art* (Archæological Journal, 1919): otherwise reference would have been made to it on page 113.

CHAPTER VI

The Significance of Indo-China

ALL the evidence afforded by the comparative study of the Maya civilisation of America points clearly and definitely to Indo-China as the chief source of its inspiration. It is, therefore, singularly fortunate that full and reliable statements of the facts relating to the archæology of the south-eastern corner of Asia and the Malay Archipelago are now being provided in rapid succession, especially by the French and Dutch investigators, who are working in these respective fields. (See, for example, *Ars Asiatica*, Etudes et Documents publiés sous le patronage de l'Ecole Française d'Extreme-Orient par Victor Goloubew.)

M. George Groslier's important monograph on the ethnology and archæology of Cambodia[1] is a particularly valuable storehouse of facts. He is of opinion (p. 362) that the Khmer people of Cambodia acquired all the elements of their architecture between the fourth and the eighth centuries A.D., one more corroboration of the later date for the American monuments. But what is peculiarly significant and important to the student of the origins of Maya culture is the place occupied by the elephant in Indo-China.

[1] *Recherches sur les Cambodgiens*, Paris, 1921.

M. Groslier explains in detail the deep affection and admiration of the Cambodian people for the elephant, not merely for the actual animal, which was used ceremonially by princes and as the vehicle of travellers and hunters, but also Indra's legendary elephant Airavata, and the sculptured representations of the elephant as the favourite architectural decoration (*op. cit.*, pp. 262 and 263). The south-eastern corner of Asia was permeated with elephant-symbolism, and veneration for the elephant-headed god Ganesa was even more universal than in Southern India itself. Hence there was every reason why emigrants from this land should have carried with them the memory of a creature that had captured the popular imagination (Plate 46).

In his interesting lecture on India and the Art of Indo-China (*The Indian Magazine*, January, 1923) M. Victor Goloubew (of the French School in the Far East) throws an interesting light on one possible device for the conveyance of artistic designs. He cites Chinese references to Cambodia in the early centuries of the Christian era, in which particular mention is made of model elephants carved in sandal wood. Such trinkets carried by seamen might have provided the model which enabled the Copan sculptor to reproduce the elephant's profile with such remarkable accuracy.

Within recent years fuller recognition has been given to the influence of Indian art in Indo-China and the Malay Archipelago, and further afield in China and Japan.

In his memoir on Indian Art in Siam, Voretzsch[1]

[1] *Rupam*, July, 1920, p. 21.

PLATE 46.

A Cambodian "Chao," or Ganesa—the guardian of a village. (After Delaporte).

PLATE 47.

Portion of a bas-relief from the second gallery of the Temple of Baion, Cambodia. (After Delaporte).

says the influence of Buddhism must have made itself felt in Siam from the time of Asoka (273 to 232 B.C.) until well into the first millennium of the Christian era. The Gandhara period represents a later wave of Indian influence, which was followed by yet another, the Gupta (about 350 to 650 A.D.), and in the thirteenth century there was another great diffusion of influence from Ceylon. These successive waves of Indian culture followed the same route but reached Siam in different ways. Of the four there is no doubt that the Gupta art exerted the most enduring influence, the effects of which became most obtrusive during the period of the Sukothai —Savankolok (750 to 1100 A.D.). The recognition of these facts, and especially the chronological data, is of peculiar significance to the student of the Maya culture in America.

Passing further east, to Cambodia, everyone who has seriously investigated the history of that country recognises the predominant influence of Indian culture there. Khmer architecture sprang into existence quite abruptly, revealing from the beginning a certain mastery of design and technique which rapidly attained the summit of their expression. The analogy with the known facts relating to the Maya stonework is so close that one can confidently interpret the meaning of the American enigma in the light of the established history of Cambodia. The Maya architecture began suddenly because immigrants brought the knowledge and the technical skill to inaugurate the new practice. But there is something more than an analogy between the cases of Cambodia and Central

America. Not merely was the mechanism of cultural diffusion identical and its results similar, but the American culture was actually derived in large measure from Indo-China, and bears to it the same relationship as Cambodia does to India. Their history was closely analogous. Both rapidly attained the highest expression of their art; in both cases the initial inspiration soon became exhausted and a process of degradation set in. In both cases there were centuries of cultural penetration before the great architectural achievements were effected. Having assimilated the art of architecture for two centuries, the Cambodians erected their great stone monuments mainly between the sixth and the thirteenth centuries A.D.; but it is generally admitted that Hindu influence upon the customs and beliefs of Indo-China was being exerted before the commencement of the Christian era. The same statements can confidently be made, both as regards the historical sequence and the approximate dates, as the only credible interpretation of the facts of Maya archæology in America.

In his memoir entitled, "Some General Observations on the Temples of Angkor," M. H. Marchal[1] questions whether one is justified in claiming Khmer art simply as an expression of Indian inspiration, even if one recognises the predominant influence of Indian culture and many of its decorative motives. But the nearest analogy to some of the representations of foliage and interlacing designs is to be found in western mediæval art. Winged figures, human and animal, reveal their Chaldean origin.

[1] *Rupam*, October, 1922, p. 120.

PLATE 48.

Cambodian design representing Indra seated on the three-headed elephant Airavata, which presents some analogy to the top of the Copan Stela B. (After Delaporte).

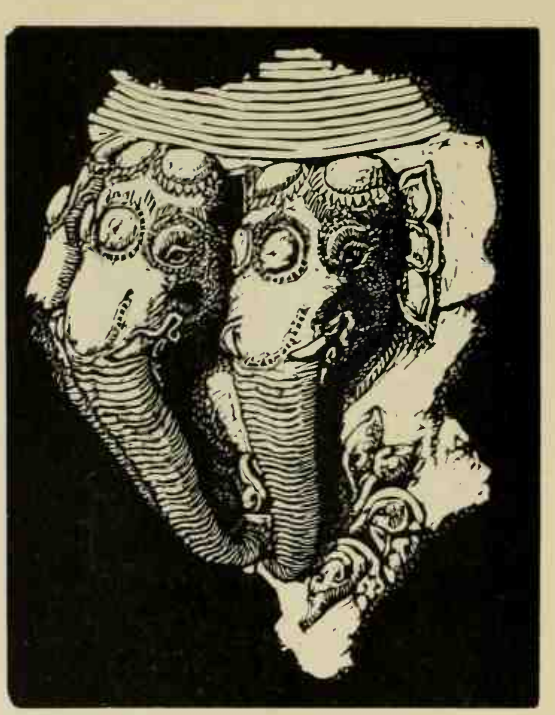


PLATE 49.

Fragment of a funerary urn from Angkor-Thom, Cambodia. (After Delaporte).

He says the capitals of the galleries and vestibules of Angkor Vat remind him of the Doric order of classical Græco-Roman architecture; and he suggests that the influences of Europe and Western Asia might have reached as far as Indo-China by way of Syria and Persia to India. Like so many ethnologists he does not mention even the possibility of the maritime route.

The solution of the problem defined by these quotations from M. Marchal's essay is a matter of fundamental importance. But due recognition has not been accorded by the majority of anthropologists to the fact that elements of early culture often survive in distant places long after they are lost or profoundly modified nearer the home of their invention. For example, the practice of mummification has been extinct in the home of its invention for more than twelve centuries. Only very slight traces of it can be discovered in India. In Indonesia and Indo-China it is still practised, but with profound modifications of the original technique. Yet in the islands of Torres Straits, in Melanesia and Polynesia, the ancient Egyptian methods are more completely preserved than at any of the intermediate places. Dr. Rivers repeatedly called attention to this phenomenon, which for so many writers has been a cause of difficulty and confusion of thought rather than the revelation of a common historical fact. But its significance is plain enough. When the germs of an alien culture are planted in a new territory it takes a long time after they have taken root before the growth assumes a distinctive character peculiar to the new focus.

There is no doubt that India derived a great deal of its earliest culture from Babylonia and Egypt, and gradually assimilated these adopted customs and beliefs until there developed a new cultural compound distinct from Babylonian and Egyptian civilisations and characteristic enough to receive the name " Indian." But during the centuries it took to effect this process, India was handing on to Indo-China the torch of Western knowledge before it had assumed its distinctively Indian form. Hence the Far Eastern civilisation preserves more definite traces of its original Egyptian and Babylonian inspiration than Indian civilisation itself, because the vigorous and prolonged development of the latter effected a much more profound transformation. This principle can be applied not only to early streams of culture but also to all the subsequent waves. Moreover it can be used to explain not only Cambodian problems, but also those of Indonesia, Oceania, and especially America, in the primitive civilisation of which can be recognised contributions from India, Indonesia, Indo-China, China, Melanesia and Polynesia, but also not a few ingredients of much earlier but quite unmistakable Mesopotamian, Mediterranean and Egyptian influence.

The most obtrusive factor in the customs and beliefs of the Maya civilisation is unquestionably Indian.

Discussing the problems of Indian art Dr. William Cohn[1] complains that too much attention has been concentrated upon the foreign influences which have stimulated the development of culture in India and

[1] *Rupam*, July, 1920.

provided it with ideas and motives, and too little credit has been given to the native genius which fashioned Indian works of art and gave them their distinctive character. I think it would be more correct to claim that just and adequate recognition has not been given to either factor. If this seems paradoxical it is nevertheless a true interpretation of the present state of opinion. The vastness of the extent of the influence of Western civilisation upon India has not yet received full recognition or just estimation. India was inspired to artistic invention not merely by Persia and Greece, and by the influence of her own colonising efforts, but also in much earlier times, when she was more impressionable, by Mesopotamia and Egypt. But the details of the process by which she reacted to these stimuli and, to alter the metaphor, wove the strands of these varied foreign cultures into the distinctive texture of her own artistic expression are still matters of profound misunderstanding. Hence, while emphasising more emphatically than perhaps any previous writer has done the magnitude of India's debt to the West, I think it is not inconsistent at the same time to express my agreement with Cohn's statement that "it was fundamentally Indian genius which created Indian art and drove it forward to attain that greatness and magnificence which at Bharut and Sanchi, at Karli and Amaravati, at Ellora and Aranta, at Mâmallapuram and Java, in Cambodia and Ceylon, et cetera, created imperishable and distinctive works." The admission of the source of alien inspiration does not preclude recognition of the intelligence and skill of the Indians who were capable of

appreciating the value of the borrowed culture and of assimilating and adapting it to their own needs. It was they who fashioned the distinctive traits of Indian civilisation.

I have already referred to the influence of India upon Indo-China and Indonesia: but China also came under its sway during the T'ang period (602-907 A.D.). According to Cohn, although the earliest monuments of Indian art go back to the time of Asoka, about the middle of the third century B.C., the five centuries from the fourth to the ninth A.D. include the time of the zenith of Indian art. It left its mark on Chinese Buddhistic art, and probably also upon Japanese art of the Nara period. But this does not represent the limits of its sphere of influence. For the primary aim of this book is to demonstrate that the same phrase of Indian culture was impressed upon Central America and Mexico and played an obtrusive part in shaping the earliest civilisation that grew up in the New World, and is rightly regarded as distinctively American, though most of its ingredients came across the Pacific from the Old World. To the question; "Who created the art of Java and Indo-China?" Cohn answers: "Here we stand suddenly facing a full-grown art, which is certainly dependent on India, and yet has much that is its own." The same reply is applicable to the Maya civilisation of Central America.

In his monograph *Recherches sup les Cambodgiens* (1921) M. George Groslier gives in fuller detail (p. 345) than the authors I have quoted the sources (and the date of the development) of Khmer architecture, and he

explains the part taken by the mythical makara in the scheme of ornamentation. The Cambodian and Javanese variants of this capricorn of Eastern Asia provide the prototypes for the peculiar decorations, sometimes called elephants' trunks, at other times conventionalised serpents, upon the Maya buildings in Central America.

Mr. Groslier calls attention to an important point in this connection, when he contrasts (p. 103) the representation of the elephant by the Cambodians—to whom it was a perfectly familiar and venerated animal—and by the Chinese, who had never seen it and attached no cultural significance to it.

Inscribed memorials, carvings and the decorations of buildings in general, make it clear that Siva and his son Ganesa, the god with the elephant-head, were the most widely distributed of the Brahman gods in Cambodia. The images and the symbols of these gods are far more numerous than those of other figures of Hindu mythology.[1]

At the period (third to the twelfth centuries A.D.) to which this statement refers there was flourishing on the other side of the Pacific Ocean a civilisation of which also the elephant-headed god was also the most popular; but as a rule he was depicted by artists who, like the Chinese, were unfamiliar with the elephant itself, and show no signs of affection for it.

In India the elephant-head was regarded as an emblem of royalty and symbolised victory and success of any kind.

[1] Emil Schmidt, *The World's History*, edited by H. F. Helmolt (English Translation), 1904, Vol. II, pp. 518 and 519.

Indra, the Celestial king, has the elephant Airāvata as his emblem and vehicle; and it is important to note that the elephant whose head Ganesa wears is Airāvata, Indra's vehicle. According to Indian mythology, Ganesa belongs to the family of Siva, whose eldest son he is supposed to be. The story of the loss of his human head and the acquisition of that of the elephant is told in the Brahma-Vaivarta Purāna.[1]

According to Aymonier, most of the traditional names of the kings of Cambodia are to be read in inscriptions in their Sanskrit form from the third century A.D. to 1108. At a later period within this district Sanskrit writing gave way to the native Khmer script.[2] It is useful to bear this fact in mind when considering some of the criticisms used in America with the object of disproving the influence of Cambodian culture in Central America.

During the centuries from the fifth (A.D.) onwards to the thirteenth, when the fluctuating influence of Indian culture was being exerted in Siam, Cambodia, Java, and elsewhere in Far Eastern Asia, Burma was providing a most instructive object-lesson in the process of cultural diffusion and the effects of the breaking down of the customs and beliefs borrowed from India. A very illuminating account of this interesting phase of degradation, and of the factors that played a part in transforming, under the influence of Tāntrism, the borrowed elements of Hinduism and Buddhism, has been given by

[1] Professor Brindavan C. Bhattacharya, *Indian Images* (Part I, Calcutta, 1921, p. 26).

[2] Emil Schmidt, *op. cit.*, p. 518.

M. Chas. Duroiselle.[1] My attention was first called to this valuable memoir by noticing the reproductions of the frescoes from the Paya-Thon-Zu temple. Certain details of the men's dress and ornaments, of the pictues of the elephants and their riders, and especially of the representation of a serpent's head upon the head of human figures present such interesting analogies to Maya designs in America as to indicate the Asiatic inspiration of the latter. But even more valuable than the evidence of these frescoes is M. Duroiselle's clear illumination of the mode of diffusion of culture and the way in which degeneration transforms the borrowed art, customs and beliefs.

Having now determined that the chief source of the inspiration of Maya art can be located in Indo-China, and decided that the period that exerted the main influence was from the fifth to the twelfth centuries A.D., the mechanism of its transference remains to be discussed. We have already seen in the preceding chapter that during these centuries there was intense activity through the whole Pacific area on the part of the Polynesian argonauts. It is easy to picture ships leaving the coasts of Asia manned by natives of Cambodia or Java, or the adjoining coasts or islands, bringing with them the amulets which were then so popular in these countries, such as the figure of Ganesa from Cambodia, shown in Figure 46, or vessels decorated with elephant ornaments, such as that in Figure 49, or other pictures or models of elephants resembling those in Figures 48 and 47.

[1] The Ari of Burma and Tantric Buddhism, *Annual Report for* 1915-1916 *of the Archæological Survey of India*, p. 79.

Then again, in studying the spread of Western culture along the Asiatic littoral one can detect traces of the winged disc of Egypt with the cobra supporting it, in a variety of more or less modified forms, and there seems to be some justification for the view that one of the forms assumed by the favourite Egyptian sign for the lintel of a door was the so-called " glory face," or kurtimukha of Indian architecture. An interesting account of this type of decoration and of its persistence and further development in Java and Indo-China is given in the Indian journal *Rupam* (January, 1920, p. 11).

A late example of this type from Java is shown in Plate 42, in which the grotesque head, devoid of a lower jaw, is represented merging into an elaborate floral pattern on each side, the most prominent parts of which consist of a pair of makara heads taking the place of the cobras of the original design, but with the upper jaw prolonged into the characteristic form of the elephant's trunk. In Plate 43 we have another illustration of the design, also from Java, showing two pairs of makara heads again with elephant's trunks and adorned with a spiral ornament on the side of the head. If one compares these designs either with the American form of winged disc with its grotesque face (shown in Plate 40), or with the highly conventionalised dragon's head from America to which American archæologists constantly refer as a serpent, but which is clearly identical with the Indonesian serpent-makara, with the upper lip modified under the influence of the elephant design (see Plate 50), there can be no question as to the influence of these arbitrary conventions

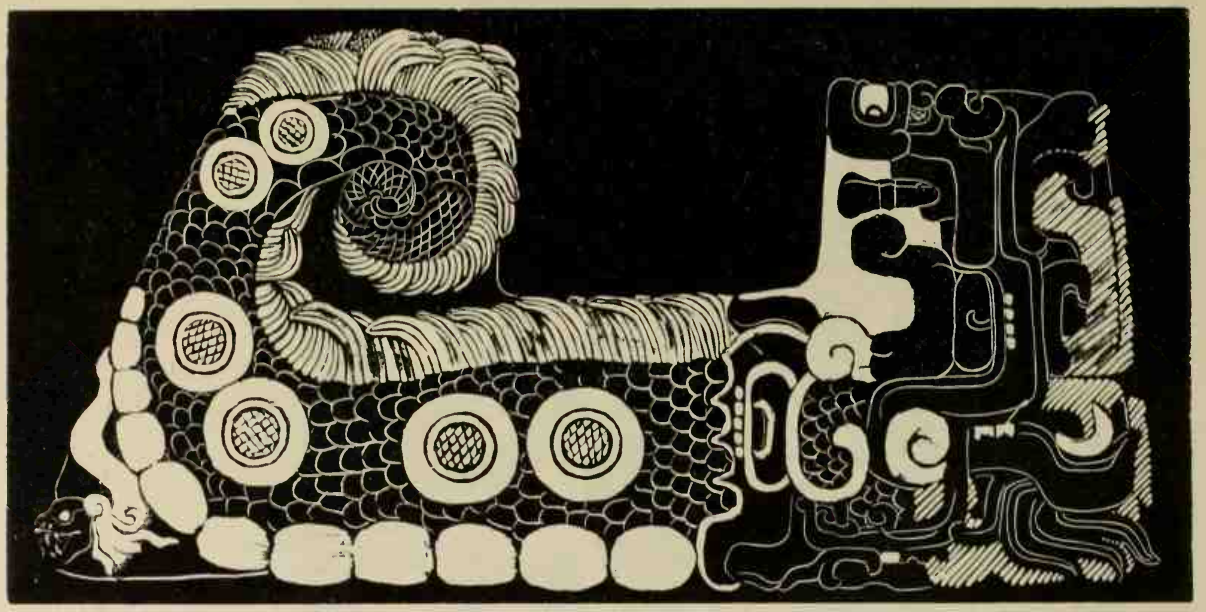


PLATE 50.

A Maya representation of a Makara of Indonesian type, with the elephant jaw highly conventionalised. Design from Altar O, Copan. (After Maudslay).

PLATE 51.

Design from the east face of Stela D at Quirigua.

in determining the forms of the designs that form such an obtrusive factor in Maya art.

Thus Indo-China was not only the chief source of the cultural inheritance of America, but also the chronometer that enables us if not to determine the date of the Maya culture, at least to check and decide the merits of the rival proposals of American chronology. The more exact knowledge of the history of Indo-China and the full recognition of its debt to India makes it a useful object-lesson of the processes and results of the spread of culture from India. The principles thus revealed can be applied to Central America. It can confidently be claimed as a demonstrable fact that the stream of Western culture that was effecting such profound developments in Cambodia during the centuries from the fourth to the twelfth A.D. was not stopped at the Asiatic littoral, but spread to Oceania and America.

PLATE 52.

Design from Monolith B at Quirigua.

INDEX

Agni, 56, 57, 60, 62
Akshay Kuma Maitra, 73
Alexander the Great, 44, 88, 92
Amen-horn, 91, 92, 94
American Bureau of Ethnology, 15, 67
Archæological Survey of India, 40, 70, 127
Art and Archæology, 110

Babylonia, 58, 60, 67, 78, 79, 122
Bancroft, Hubert Howe, 13, 38, 40, 65
Bastian, 34
Best, Elsdon, 116
Bestiaries, 113
Bhattacharya, Bringavan C., 75, 126
Birdwood, Sir George, 56
Blue Macaw, 6, 8, 39, 63, 83, 84, 87
Bowditch, 100
Breasted, J. H., 82
Brinton, D. G., 35, 39, 47, 115
British Association, 4, 35

Calendar, 115
Cambodia, 99, 118 *et seq.*, 125, 127
Capricorn, 60, 67, 73, 78
Catherwood, 13
Celestial Dog, 80 *et seq.*
Chac, 51 *et seq.*, 62, 68, 90
Charlevoix, 36, 89
China, 81, 122, 124
Cipactli, 68, 69
Clarke, John M., 49
Cohn, William, 122, 124
Cook, A. B., 91
Cousens, H., 70
Crocodile, Chapter III, 57, 59
Cunningham, General, 41, 59
Curzon, Lord, 41

Dasent, Sir George, 89
Delhi Elephant Statues, 40 *et seq.*
Demetrios I (Demetrius), 43, 91, 93
Diffusion of Culture, Chart, 3
Diffusion of Culture, Date of, Chapter V
Druce, George C., 112, 113
Duroiselle, Charles, 127

Egypt, 59, 121 *et seq.*
Elephas Columbi, 6, 45, 47
Elephant Design :
  Scandinavia and Scotland, 61, 87, 88, 112
  India, 118, 125
  Cambodia, 118, 125
Ellis, 104

Förstemann, E. W., 14, 39, 53
Friederici, Georg, 105 *et seq.*

Ganesa, 37, 38, 55, 62, 89, 125, 126, 127
Ganga, 67, 73
Gangoly, Ordhendra C., 85
Gann, Thomas, 67
Godman and Salvin, 14
Goloubew, Victor, 100, 117, 118

Gordon, G. H., 16, 74
Great Elk, American legend of, 36
de Groot, 81, 82
Groslier, George, 117, 124, 125
Gruenwedel, A., 43, 57

Haddon, 88
Henshaw, Henry W., 14, 43
Hildebrand, 88
Holmes, W. H., 66, 81, 110 *et seq.*
Honduras, 66, 81
Hopkins, E. W., 51, 55, 63
Hose, Charles, 80, 96
Hrdlička, 103
von Humboldt, Alexander, 12, 36, 37, 38, 40, 43, 46, 65, 69, 70, 114

Indo-China, Chapter VI
Indra, 55 *et seq.*, 60, 62, 114, 118
Iowa "elephant pipes," 43
Iroquois myth of Rain-god, 64

Jackson, Wilfrid, 65
Jayasuriya, Philip, 10
Jonah, 76
Joyce, T. A., 11, 53, 54, 68, 69, 100
Juynboll, H. H., 31

Kayab, 16, 53
Kingsborough, Lord, 12, 39
Kirtimukha, 85, 86, 97, 128
Krom, N. J., 86

Lang, John Dunmore, 103 *et seq.*
Laufer, 93

Macdonell, A. A., 95
Mackenzie, R. D., 41
Maisey, General, 58 *et seq.*
Makara, Chapter III, 57, 59, 128
Mammoth, 47, 48
Mammut americanum, 49
Man, 66, 69, 77
Marchal, H., 120
Marduk, 67
Marshall, Sir J. H., 41, 42
Mastodon, 50
Maudslay, Alfred P., 4, 9, 11, 14, 39, 74, 83, 84, 85, 98
McDougall, W., 80
McGuire, 15
Means, P. A., 102
Moorehead, Warren K., 50
Morley, Sylvanus Griswold, 33, 100, 102 110
Mummification, 121

Naga, Chapter III, 59, 77
Nature, 5, 84, 87
Nuttall, Zelia, 102

Oceania, 97, Chapter V, 122
Osiris, 82

Palenque, 43, 52
Peabody, Charles, 50
Peabody, Museum Papers, 44, 81
Perry, W. J., 2, 22

Rhys, Sir John, 79
Rivers, W. H. R., 2, 101, 103, 121
Robertson, 34
Rupam, 73, 85, 118, 120, 122, 128

Scandinavia and Scotland, Elephant design in, 61, 87, 88, 112
Schellhas, Paul, 15, 44, 45, 46, 52, 54, 81
Schuchert, Charles, 49
Schmidt, Emil. 125

Seler, Eduard, 16, 39, 43, 47, 51, 54, 63, 64, 68, 81
Seltman, Charles T., 92
Simpson, William, 78
Smith, C. H., 13, 88
Southesk, Earl of, 88
Spinden, Herbert J., 11, 52, 53, 74, 76, 83, 84, 86, 98, 102, 110
Spiral Ornament, Chapter IV, 59, 91
Stela B, Plate 4, designs, pp. 4, 9
Stempell, W., 15, 44, 45, 47, 48, 50, 51
Stephens, John Lloyd, 13
Stuart, John 88, 89, 94

Tapir, 6, 38, 39, 48
Taylor, Jay L. B., 50
Tengu, 81
Thomas, Cyrus, 15, 61, 62
Thor, 61, 62
Tlaloc, 51 *et seq.*, 62, 63, 68, 90
Tortoise, 6, 16
Tozzer, Alfred M., 83, 84, 86, 110
Turkey-cock, 63
Tutankhamen, 94
Tuxtla Statuette, 102
Tylor, Sir Edward B., 13, 34, 36, 89

Uxmal, 38, 39

Varuna, 57, 67, 73, 75, 90
Vedic myth of Indra, 48, 51, 55, 56, 63 64, 114
de Visser, 59, 76, 77, 81
Virudhaka, 43
Vishnu, 65, 79
Voretzsch, 118

Waitz, 34
Wani, 67
Washington, Henry S., 102
Winged Disc, 97, 128
Wisconsin "Elephant Mounds," 43
Wissler, Clark, 103, 110
Worsaae, J. J. A., 61, 62

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